



AGENDA

PLANNING COMMISSION

Don Daniels • Ryan Pearson • Paul Wagemann
Phillip Combs • Linn Larsen • Brian Parsons • Robert Estrada

Wednesday, May 4, 2022 at 6:30 pm

Hybrid Meeting: In-Person & Virtual via ZOOM

Council Chambers 6000 Main St. SW, Lakewood WA 98499

Per the Lakewood City Council, the Planning Commission will meet in a hybrid in-person and virtual format.

Residents can attend in person at the Lakewood City Council Chambers; they can also attend virtually by watching them live on the City's YouTube channel @ <https://www.youtube.com/user/cityoflakewoodwa> or by calling in to listen by telephone at +1 (253) 215-8782 and by entering meeting ID: 864 2883 6136

To Submit Public Comment and/or Public Hearing Testimony Prior to Meeting: Send comments by mail or email to Karen Devereaux, Planning Commission Clerk, at kdevereaux@cityoflakewood.us or 6000 Main Street SW Lakewood, WA 98499. Comments received up to one hour before the meeting will be provided to the Planning Commission electronically.

Live Virtual Public Participation: To provide live virtual Public Comments or Public Hearing Testimony during the meeting, join the Zoom meeting as an attendee by calling by telephone Dial +1(253) 215- 8782 and enter participant ID: 864 2883 6136 or by going online at <https://us06web.zoom.us/j/86428836136> Each speaker will be allowed (3) three minutes to speak during the Public comment and during each Public Hearing. Outside of Public Comments and Public Hearings, attendees will not be acknowledged and their microphone will remain muted.

By Phone: For those participating by calling in by phone to testify, the Chair will call on you during the Public Comment and/or Public Hearings portions of the agenda. When you are unmuted, please provide your name and city of residence.

Online: For those using the ZOOM link <https://us06web.zoom.us/j/86428836136> to testify, upon entering the meeting, please enter your name or other chosen identifier. Use the "Raise Hand" feature to be called upon by the Chair during the Public Comments and/or Public Hearings portions of the agenda. When you are unmuted, please provide your name and city of residence.

1.	Call to Order
2.	Roll Call
3.	Approval of Minutes from April 20, 2022
4.	Agenda Updates
5.	Public Comments
6.	Public Hearings <ul style="list-style-type: none">• None
7.	Unfinished Business <ul style="list-style-type: none">• None
8.	New Business <ul style="list-style-type: none">• Tree Preservation Code Introduction & Update;• Meadow Park Project Introduction; and• 2022 Comprehensive Plan Amendment Review (2022-02 Tillicum Neighborhood Plan & Center of Local Importance, 2022-04 Adult Family Homes in Air Corridor 1 & 2 Zones, 2022-07 Parking Regulations in LMC Titles 18A & 18C)
9.	Reports from Council Liaison, City Staff & Commission Members <ul style="list-style-type: none">• City Council Updates/Actions• City Staff Updates• Future Agenda Topics

Enclosures

1. Draft Meeting Minutes from April 20, 2022
2. Staff Report: Tree Preservation Code
3. Staff Report: Meadow Park Project Introduction
4. Staff Report: 2022 Comprehensive Plan Amendments Review (2022-02, -04, -07)

Members Only

Please email kdevereaux@cityoflakewood.us or call Karen Devereaux at 253.983.7767 no later than Tuesday, May 3, 2022 at noon if you are unable to attend. Thank you.



**PLANNING COMMISSION
REGULAR MEETING MINUTES
April 20, 2022
Hybrid In-Person/Virtual Meeting via ZOOM
6000 Main Street SW, Lakewood, WA 98499**

Call to Order

Mr. Don Daniels, Chair called the hybrid ZOOM meeting to order at 6:30 p.m.

Roll Call

Planning Commission Members Present: Don Daniels, Chair; Ryan Pearson, Phillip Combs, Linn Larsen, Brian Parsons and Robert Estrada

Planning Commission Members Excused: Paul Wagemann

Commission Members Absent: None

Staff Present: Tiffany Speir, Long Range & Strategic Planning Manager; and Karen Devereaux, Administrative Assistant

Council Liaison: Paul Bocchi (present)

Approval of Minutes

Mr. Robert Estrada noted that his name needed to be added to those in present. **The minutes of the meeting held on April 6, 2022 were approved as amended by voice vote M/S/C Larsen/Pearson. The motion carried, 6 - 0.**

Agenda Updates

None

Public Comments

This meeting was held in a hybrid format, allowing both in-person and virtual testimony. No public comments were received.

Public Hearings

None

Unfinished Business

Discussion of the 2022 Shoreline Restoration Plan Updates and Action on Recommendation to City Council

Ms. Tiffany Speir reviewed the two proposed amendments to the 2019 Restoration Plan. The first related to the fact that the City no longer participates in the annual Chambers-Clover Creek Watershed monitoring program, and the second was removing text unintentionally included in the 2019 version of the Plan.

A motion was made to adopt Planning Commission Resolution 2022-02 recommending two amendments to the 2019 Shoreline Restoration Plan to the Lakewood City Council. The Resolution 2022-02 was approved as written by voice vote M/S/C Larsen/Estrada. The motion carried, 6 - 0.

Ms. Speir informed the Commission that the tentative City Council Schedule would be as follows:

May 19: Introduction to City Council

May 16: Public Hearing

June 6: Action by City Council

Discussion re Economic Development Strategic Draft Plan Presented on 04/06/2022

Tiffany Speir sought feedback from the Planning Commission on the draft 2022 Economic Development Strategy presented to the Commission by Economic Development Manager Becky Newton on April 6. The Commission expressed its support for the draft Plan by consensus.

New Business

Review of the 2023-2028 6 Year Transportation Improvement Program (TIP)

Mr. Charles “Ted” Hill reviewed the TIP by first highlighting the 7 projects that would be completed in 2022 and removed from the TIP:

- Steilacoom Blvd Sidewalks (Safe Routes to School);
- Steilacoom Blvd Sidewalks (Non-Safe Routes to School);
- 59th Avenue Sidewalks;
- 2021 Street Lighting;
- South Tacoma Way Overlay;
- Phillips Road Sidewalks; and
- Gravelly Lake Drive (JBLM North Access) Phase 1.

Mr. Hill continued with review of three roadway improvement projects proposed to be added to the 2023-2028 TIP as follows:

- Boston Avenue SW - I-5 to McChord Drive SW;
- John Dower Road SW – 78th Street SW to 75th Street SW; and
- 112th Street S - South Tacoma Way to Steele Street S.

Report from Council Liaison

Councilmember Mr. Paul Bocchi updated Commissioners on the upcoming discussion regarding the 2044 Population and Employment Growth Target process via the Pierce County Regional Council and Pierce County Council. Lakewood would be proposing a lower number than identified by the Pierce County consultant facilitating the intra-county growth target discussions. Under the VISION 2050 Regional Growth Strategy, the “core cities” of Lakewood, Puyallup, University Place and Auburn were assigned a cumulative growth number of 60,900 people by 2044.

Lakewood was provided two initial population targets by AHB�:

- Assuming a 1,197 person annual growth rate equal to that needed to reach its 2030 population target of 72,000, Lakewood would see an increase of 16,758 persons, or a total population of **88,758**, in 2044.
- Based on Lakewood’s housing capacity of 34,824 units as included in the 2014 Buildable Lands Report, assuming 2.3 persons per household (PPH), and based on current buildable land assumptions, no changes to growth policies, and no increase in density, Lakewood would see a 2044 population capacity total of **80,488**.

Following the 2020 Census and the City’s internal analysis of growth trends and anticipated growth, Lakewood developed a preferred 2044 population growth target request and a 2nd option:

Lakewood’s Preferred Population Target is 80,274. It is based on:

- the City’s 2020 Census population of 63,612; and
- a 2020-2044 population growth of 16,662 through the following;
 - o the maximum density redevelopment of the Downtown and Lakewood Station District Subareas, thus realizing 1,298 more units than the 4,029 units initially anticipated; and

- o 11+ additional housing units per year built outside of the subareas through 2044.

Lakewood's 2nd Option Population Target is 86,792. It is based on:

- assuming the same growth occurs in the Downtown and Lakewood Station District Subareas as in the Requested Option;
- assuming an equivalent of at least 17 housing units will also be built outside of the subareas annually through 2044;
- assuming that vacant and underdeveloped acreage throughout the City's CBD, MF1, MF2, MF3, MR 1, MR 2, NC1, NC2, R1 – R4, and TOC zones will develop and redevelop at higher than historical densities, resulting in at least 3,491 new units at 2.43 PPH; **and**
- starting from the AHBL-identified target of 88,758, assuming that the 1,832 nonconforming housing units in the AC1, AC2 and ML zones will be relocated into other areas of Lakewood.

Reports from Commission Members and Staff

Ms. Tiffany Speir reviewed the following topics slated for discussion at the May 4 and future meetings:

Future Planning Commission Agenda Topics

05/04/2022: Discussion of 22CPAs 2022-01 through -07; Tree Preservation Code Update Introduction; Meadow Park Housing Project

05/18/2022: Public hearing on Meadow Park; public hearing on 22CPAs; discussion of Tree Preservation Code update

06/01/2022: Public hearing on Tree Preservation Code update; action on Meadow Park project

06/15/2022: Discussion re recommendation to City Council re '22 CPAs; action on Tree Preservation Code update; Downtown Sub Area Plan Biennial Review Intro

6/29/2022: Special Meeting Action on recommendation to City Council re '22 CPAs; discussion re Tree Preservation Code update

Next Regular Meeting would be held as a hybrid in-person/ZOOM meeting on May 4, 2022.

Meeting Adjourned at 7:27 p.m.

Don Daniels, Chair
Planning Commission 05/04/2022

Karen Devereaux, Recording Secretary
Planning Commission 05/04/2022



TO: Planning Commission
FROM: Courtney Brunell, Planning Manager
DATE: May 4, 2022
SUBJECT: Tree Preservation Code Update

BACKGROUND

In late summer, 2021, the City Council directed the City Manager to move forward and begin the process to amend the City's tree preservation code (Title 18, Chapter 18.70, Article III). Amending the code was in response to public criticism specific to Garry oak tree preservation.

In late 2021, the City Council approved a contract with BERK consulting and PlanIT GEO including a scope of work, public participation plan and contract to rewrite/update the tree preservation code. Additionally, the City Council approved the formation of a Tree Advisory Ad Hoc Committee, which was charged with providing recommendations to the Planning Commission and City Council.

The Tree Adhoc Committee opportunity was advertised for 30 days in December, 2021- January, 2022. Applications were reviewed by the City Council and appointments were made in February, 2022. Beginning in March, the adhoc committee met a total of seven times, with an expected conclusion on April 28, 2022.

DISCUSSION

During the May 4, 2022 meeting staff will provide an introduction to the tree preservation code update including an overview of the existing code, identification of critical issues, and next steps. It is anticipated that the Planning Commission will review the tree preservation code and adhoc committee recommendations on May 18th and June 1st and 15th.

ATTACHMENTS

Tree Preservation Code Update PowerPoint
LMC 18A.70



Tree Preservation Code Update

Background & Introduction

Planning Commission, May 4, 2022

Presentation Outline

1. Background
2. Existing Code Overview
3. Identification of Critical Issues
4. Report from adhoc committee
5. Next Steps



What's Happened So Far.....

City Council directed the city manager to move forward with amending the City's Tree Preservation Code (Title 18, Chapter 18.70, Article III). City Council set a goal to complete the update by August, 2022.

September 27, 2021- January, 2022

- Analysis of the current code, plus commentary on areas of improvement
- Berk Consulting Hired
- Tree Advisory Committee Formed by the City Council

March 2022- April, 2022

- The Tree advisory Adhoc committee met 7 times
- City hosted a tree talk
- City sponsored public survey



Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

Exemptions:

- Lots of less than seventeen thousand (17,000) square feet in single-family residential zones are exempt from this chapter, except where specific tree preservation is required as a mitigation measure under SEPA.
- Industrially zoned properties are exempt from this chapter, except where specific tree preservation is required as a mitigation measure under SEPA.
- Removal of nonsignificant trees that are not protected by any other means is exempt from this chapter.
- Removal of Trees in ROW & Easements for a public agency or franchised utility
- Emergency Removal of hazardous trees

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

Significant trees

- A. Standards. Significant tree preservation shall be required for any project permit.
1. A significant tree is an existing tree which:
 - a. When measured at four and one-half (4.5) feet above ground, has a minimum diameter of nine (9) inches for evergreen trees and deciduous trees;
 - b. When measured at four and one-half (4.5) feet above ground, has a minimum diameter of six (6) inches for Garry Oaks (also known as Oregon White Oaks); and
 - c. Regardless of the tree diameter, is determined to be significant by the Director due to the uniqueness of the species or provision of important wildlife habitat.

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

Preservation Criteria (for non-exempt projects)

Significant trees may be removed if required for the siting and placement of driveway and road access, buildings, vision clearance areas, utilities, sidewalks or pedestrian walkways, or storm drainage facilities and other similar required improvements, subject to the discretion of the Director.

1. Perimeter Trees. All significant trees within twenty (20) feet of the lot perimeter or required buffer, whichever is greater, shall be preserved
2. Interior Trees. A percentage of all significant trees within the interior of a lot, excluding the perimeter area, shall be preserved within the applicable zoning district.
 - a. For new single-family residential development- fifty **(50) percent** of the significant trees located within the interior area of the lot shall be retained.
 - b. For new residential subdivisions where the proposed lot size is greater than seventeen thousand (17,000) square feet, all significant trees shall be retained
 - c. For commercial development, ten (10) percent of the significant trees located within the interior area of the lot
 - d. In Open Space and Recreation zones, ninety-five (95) percent of the significant trees located within the interior area of the lot shall be retained unless otherwise determined by the Director.

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

But, wait! There's more!

3. Buffers and Sensitive/Critical Areas. Tree preservation criteria listed above shall exclude sensitive/critical areas and their buffers, and open space areas and tracts. All trees within such areas shall be retained except as may be specifically approved and indicated in the written findings of a discretionary land use permit or a tree removal permit.

4. SEPA Requirements. Additional or specific tree retention may be required as SEPA mitigation in addition to the requirements of this section.

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

Maximum Tree Removal on Existing Single-Family Lots without a Permit		
Lot Size	Maximum number of significant trees allowed to be removed in 1 year without a permit	Maximum number of significant trees allowed to be removed in 5 years without a permit
Lots up to 17,000 sq. ft.	N/A	N/A
Lots 17,001 to 30,000 sq. ft.	2	4
Lots 30,001 sq. ft. or greater	4	8

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

Additional Tree Removal

Mitigation

- On site replacement

- Off site replacement

- Tree mitigation fund

2:1 ratio based on diameter, divided by 3 (for a 3" tree) x \$400 (cost identified in fee schedule for one replacement tree)

Ex: Mr. Bugher wants to remove a 20" fir tree on his lot, he has exceeded his maximum number of trees to be removed in 5 year period.

$((20 \times 2) / 3) = 13$ replacement trees or $\times 400 = \$5,200$ in mitigation fees

Background

Existing Code
Overview

Identification of
Critical Issues

Report from adhoc
committee

Next Steps

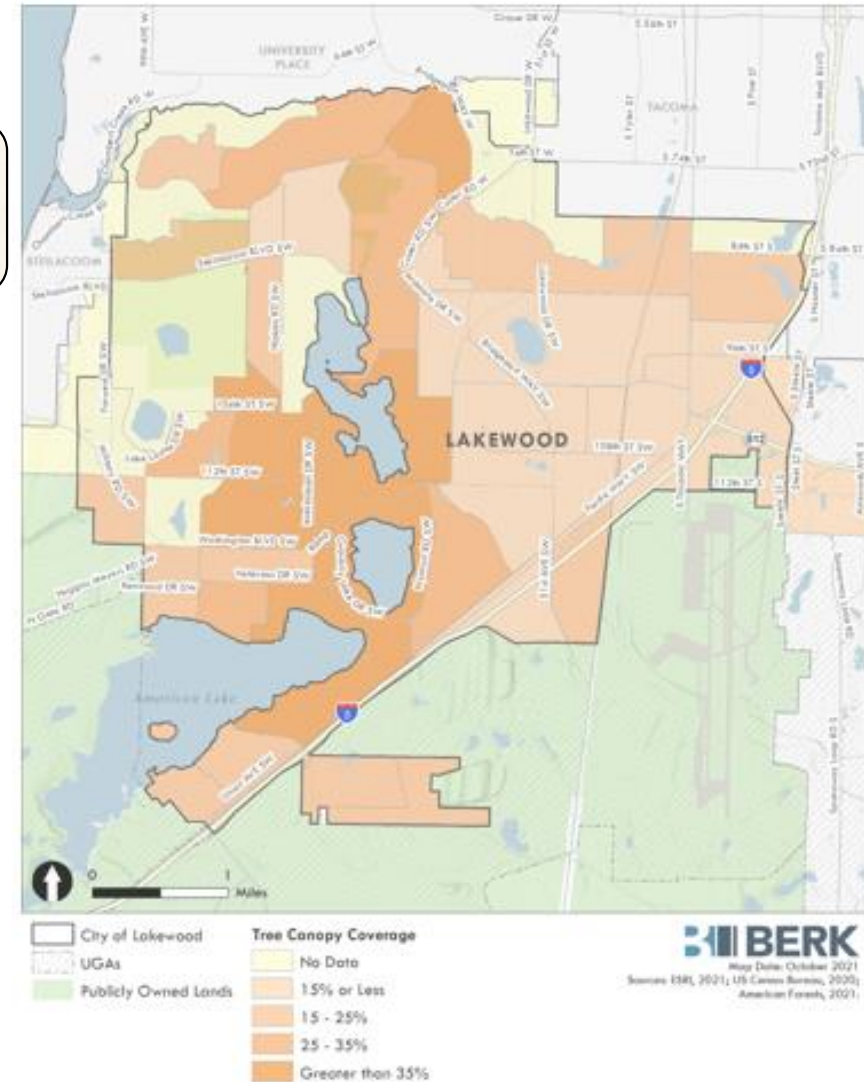
Exemptions
(industrial &
SFR under
17,000)

Oak Tree
Preservation

Sensitive Areas not
well defined

Tree removal
required for
new
development

Difficult to
keep track of
number of
trees removed
in 5 year period
with no permit
required



Background

Existing Code Overview

Identification of Critical
Issues

Report from adhoc
committee

Next Steps

Exemptions

Incentives

Enforcement

**Protection/
Preservation**



Background

Existing Code
Overview

Identification of Critical
Issues

Report from adhoc
committee

Next Steps

- Adhoc Committee Recommendations drafted as a revised code- currently underway, will be presented May 18, 2022
- Additional Public Engagement, May, 2022
- Planning Commission Review, May- June, 2022
 - Planning Commission Public Hearing (June, 2022)
- Other Boards & Commission Review, May- June, 2022
- City Council Review, July, 2022.
 - City Council Public Hearing (July or August, 2022)
- City Council Adoption, August, 2022.



Article III. Tree Preservation

18A.70.300 Purpose.

This article promotes tree preservation by protecting the treed environment of the City of Lakewood by regulating the removal of significant trees and providing incentives to preserve trees that, because of their size, species, or location, provide special benefits. Tree preservation protects and enhances critical areas, facilitates aquifer recharge, reduces erosion and storm water runoff, and helps to define public and private open spaces. [Ord. 726 § 2 (Exh. B), 2019.]

18A.70.310 Tree removal applicability/exemptions.

The requirements for tree preservation shall be provided in accordance with the development standards of each individual zoning district and the provisions of this section, and are applicable to all zoning districts.

- A. Lots of less than seventeen thousand (17,000) square feet in single-family residential zones are exempt from this chapter, except where specific tree preservation is required as a mitigation measure under SEPA. In the event a permit is not required for the establishment of a use, the standards of this section shall still apply.
- B. Industrially zoned properties are exempt from this chapter, except where specific tree preservation is required as a mitigation measure under SEPA.
- C. Removal of nonsignificant trees that are not protected by any other means is exempt from this chapter.
- D. *Removal of Trees in Association with Right-of-Way and Easements.* Tree removal by a public agency or a franchised utility within a public right-of-way or upon an easement, for the purpose of installing and maintaining water, storm, sewer, power, gas or communication lines, or motorized or nonmotorized streets or paths is exempt from this chapter. Notification to the City by the public agency or franchised utility is required prior to tree maintenance or removal within City rights-of-way.
- E. *Emergency Removal.* Any number of hazardous protected and nonprotected trees may be removed under emergency conditions. Emergency conditions include immediate danger to life or dwellings or similar stationary and valuable property, including the presence of a target. Emergency removal may occur and all the following conditions shall be met:
 - 1. The City is notified the following business day of the unpermitted action;
 - 2. Visual documentation (i.e., photographs, video, etc.) is made available; and
 - 3. The felled tree remains on site for City inspection.
 - 4. Replacement required.

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- a. Nonsingle-family use: The property owner will be required to provide replacement trees as established in LMC [18A.70.320\(G\)](#), Replacement.
 - b. Single-family use: The property owner will not be required to provide replacement trees.
5. Should the City determine that the tree(s) did not pose an emergency condition, the owner shall be cited for a violation of the terms of this chapter. [Ord. 726 § 2 (Exh. B), 2019.]

18A.70.320 Significant tree preservation.

A. *Standards.* Significant tree preservation shall be required for any project permit.

1. A significant tree is an existing tree which:
 - a. When measured at four and one-half (4.5) feet above ground, has a minimum diameter of nine (9) inches for evergreen trees and deciduous trees;
 - b. When measured at four and one-half (4.5) feet above ground, has a minimum diameter of six (6) inches for Garry Oaks (also known as Oregon White Oaks); and
 - c. Regardless of the tree diameter, is determined to be significant by the Director due to the uniqueness of the species or provision of important wildlife habitat.
2. For the purposes of this section, existing trees are measured by diameter at four and one-half (4.5) feet above ground level, which is the usual and customary forest standard. Replacement trees are measured by diameter at six (6) inches above ground level, which is the usual and customary nursery standard.
3. *Damaged or Diseased Trees.* Trees will not be considered "significant" if, following inspection and a written report by a registered landscape architect, certified nursery professional or certified arborist, and upon review of the report and concurrence by the City, they are determined to be:
 - a. Safety hazards due to root, trunk or primary limb failure;
 - b. Damaged or diseased, and do not constitute an important wildlife habitat. At the discretion of the City, damaged or diseased or standing dead trees may be retained and counted toward the significant tree requirement, if demonstrated that such trees will provide important wildlife habitat and are not classified as a safety hazard.
4. *Preventive Measure Evaluation.* An evaluation of preventive measures by an arborist in lieu of removing the tree and potential impacts of tree removal may be required. If required, this evaluation shall include the following measures:
 - a. Avoid disturbing tree: Avoid disturbing the tree at all unless it represents a hazard as determined by an arborist;

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- b. Stabilize tree: Stabilize the tree, if possible, using approved arboricultural methods such as cable and bracing in conjunction with other practices to rejuvenate the tree such as repairing damaged bark and trunk wounds, mulching, application of fertilizer, and improving aeration of the tree root zones;
 - c. Pruning: Remove limbs from the tree, such as removing dead or broken branches, or by reducing branch end weights. If needed, remove up to one-quarter (1/4) of the branches from the canopy and main trunk only in small amounts, unless greater pruning is needed by approval of the arborist;
 - d. Wildlife tree: Create a wildlife tree or snag, or cut the tree down to a safe condition, without disturbing the roots, where the tree no longer poses a hazard. To create snags, remove all branches from the canopy, girdle deciduous trees, and leave the main trunk standing. Wildlife trees or snags are most appropriate in City parks, greenbelts, vacant property, and environmentally critical areas;
 - e. Steep slopes: Removal of tree roots on steep slopes may require a geotechnical evaluation;
 - f. Creeks and lakes: Trees fallen into creeks and lakes are to remain in place unless they create a hazard; and
 - g. Provide professional recommendations on:
 - 1. The necessity of removal, including alternative measures to removal;
 - 2. The lowest-impact approach to removal;
 - 3. A replacement tree plan, if required.

B. *Preservation Criteria.* All significant trees shall be preserved according to the following criteria:

- 1. *Perimeter Trees.* All significant trees within twenty (20) feet of the lot perimeter or required buffer, whichever is greater, shall be preserved; except that significant trees may be removed if required for the siting and placement of driveway and road access, buildings, vision clearance areas, utilities, sidewalks or pedestrian walkways, or storm drainage facilities and other similar required improvements, subject to the discretion of the Director.

This requirement shall not apply to single-family residential lots less than seventeen thousand (17,000) square feet in size, where no specific tree preservation is required.

- 2. *Interior Trees.* A percentage of all significant trees within the interior of a lot, excluding the perimeter area, shall be preserved within the applicable zoning district.
 - a. For new single-family residential development including a single-family dwelling on an individual lot, multifamily residential development, and public/quasi-public institutional development, fifty (50) percent of the significant trees located within the interior area of the lot shall be retained.
 - b. For new residential subdivisions where the proposed lot size is greater than seventeen thousand (17,000) square feet, all significant trees shall be retained and preserved except those required to be removed in order to construct streets, utilities, or other on-site improvements. Tree retention shall

thereafter be provided on a lot-by-lot basis as the individual lots are developed. For subdivisions where the proposed lots are less than seventeen thousand (17,000) square feet, no specific tree preservation is required.

c. For commercial development, ten (10) percent of the significant trees located within the interior area of the lot, or individual lots in the case of subdivisions, shall be retained.

d. In Open Space and Recreation zones, ninety-five (95) percent of the significant trees located within the interior area of the lot shall be retained unless otherwise determined by the Director.

3. *Buffers and Sensitive/Critical Areas.* Tree preservation criteria listed above shall exclude sensitive/critical areas and their buffers, and open space areas and tracts. All trees within such areas shall be retained except as may be specifically approved and indicated in the written findings of a discretionary land use permit or a tree removal permit.

4. *SEPA Requirements.* Additional or specific tree retention may be required as SEPA mitigation in addition to the requirements of this section.

C. *Tree Retention Plan Required.*

1. A significant tree retention plan shall be submitted to the Community Economic and Development Department for any project permit, except building permits that do not increase the footprint of a building. The plans shall be submitted according to the requirements of the application form provided by the Community Economic and Development Department.

2. The Director shall review and may approve, approve with modifications, or deny a tree retention plan subject to the provisions of this section.

3. A significant tree permit is required for the removal of any significant tree unless specifically exempted within this section.

D. *Permit/Plan Requirements.* Any project permit, except building permits that do not increase the footprint of a building shall identify, preserve, and replace significant trees in accordance with the following:

1. Submit a tree retention plan that consists of a tree survey that identifies the location, size and species of all significant trees on a site and any trees over three (3) inches in diameter at four and one-half (4.5) feet above ground level that will be retained on the site.

a. The tree survey may be conducted by a method that locates individual significant trees, or

b. Where site conditions prohibit physical survey of the property, standard timber cruising methods may be used to reflect general locations, numbers and groupings of significant trees.

2. The tree retention plan shall also show the location, species, and dripline of each significant tree that is intended to qualify for retention credit, and identify the significant trees that are proposed to be retained, and those that are designated to be removed.

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3. The applicant shall demonstrate on the tree retention plan those tree protection techniques intended to be utilized during land alteration and construction in order to provide for the continued healthy life of retained significant trees.
 4. If tree retention and/or landscape plans are required, no clearing, grading or disturbance of vegetation shall be allowed on the site until approval of such plans by the City.

E. *Construction Requirements.*

1. An area free of disturbance, corresponding to the dripline of the significant tree's canopy, shall be identified and protected during the construction stage with a temporary three (3) foot high chain-link or plastic net fence. No impervious surfaces, fill, excavation, storage of construction materials, or parking of vehicles shall be permitted within the area defined by such fencing.
2. At Director's sole discretion, a protective tree well may be required to be constructed if the grade level within ten (10) feet of the dripline around the tree is to be raised or lowered. The inside diameter of the well shall be at least equal to the diameter of the tree spread dripline, plus at least five (5) feet of additional diameter.
3. The Director may approve use of alternate tree protection techniques if the trees will be protected to an equal or greater degree than by the techniques listed above. Alternative techniques must be approved by a registered landscape architect, certified nursery professional or certified arborist, with review and concurrence by the City.
4. If any significant tree that has been specifically designated to be retained in the tree preservation plan dies or is removed within five (5) years of the development of the site, then the significant tree shall be replaced pursuant to subsection [\(G\)](#) of this section.

F. *Maximum Tree Removal on Developed Properties.* Existing single-family lots: Single-family homeowners may remove significant trees without a permit based on the following:

Maximum Tree Removal on Existing Single-Family Lots without a Permit		
Lot Size	Maximum number of significant trees allowed to be removed in 1 year without a permit	Maximum number of significant trees allowed to be removed in 5 years without a permit
Lots up to 17,000 sq. ft.	N/A	N/A
Lots 17,001 to 30,000 sq. ft.	2	4
Lots 30,001 sq. ft. or greater	4	8

G. *Replacement.* When a significant tree subject to this section cannot be retained, the tree shall be replaced as a condition for the removal of the significant tree, in accordance with the following:

1. *On-Site Replacement.*
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- a. Significant trees shall be replaced at a ratio of two to one (2:1) of the total diameter inches of all replacement trees to the diameter inches of all the significant trees removed.
 - b. Replacement trees shall be no smaller than three (3) inches in diameter at six (6) inches above ground;
 - c. Existing healthy trees anywhere on the site which are retained to support the remaining significant trees can be counted against the on-site replacement requirements on a one to one (1:1) basis of the total diameter inches of all replacement trees removed, provided it meets the following criteria:
 - i. The tree does not present a safety hazard; and
 - ii. The tree is between three (3) and nine (9) inches in diameter at four and one-half (4.5) feet above ground.
2. Each significant tree that is located interior to the twenty (20) foot perimeter area, and which is in excess of the fifty (50) percent of significant trees that are required to be retained, may be credited towards replacement on a one and one-half to one (1.5:1) basis of the total diameter inches for any perimeter trees required to be removed for development, provided the interior tree is between nine (9) inches and twenty-four (24) inches in diameter for evergreen trees, or between nine (9) inches and thirty (30) inches in diameter for deciduous trees.
3. Each significant tree that is located interior to the twenty (20) foot perimeter area, and which is in excess of the fifty (50) percent of significant trees that are required to be retained, may be credited towards replacement on a two to one (2:1) basis of the total diameter inches for any perimeter trees required to be removed for development, provided it meets one of the following criteria:
- a. The tree exceeds sixty (60) feet in height, or twenty-four (24) inches in diameter for evergreen trees, or thirty (30) inches in diameter for deciduous trees.
 - b. The tree is located in a grouping of at least five (5) other significant trees with canopies that touch or overlap.
 - c. The tree provides energy savings, through wind protection or summer shading, as a result of its location relative to buildings.
 - d. The tree belongs to a unique or unusual species.
 - e. The tree is located within twenty-five (25) feet of any critical area or required critical area buffers.
 - f. The tree is eighteen (18) inches in diameter or greater and is identified as providing valuable wildlife habitat.
4. *Off-Site Replacement.* When the required number of significant trees cannot be physically retained or replaced on site, the applicant may have the option of:
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-
- a. The planting of the required replacement trees at locations approved by the Director throughout the City. Plantings shall be completed prior to completion of the project permit requiring tree replacement.
 - b. Payment in lieu of replacement may be made to the City Tree Fund for planting of trees in other areas of the City. The payment of an amount equivalent to the estimated cost of buying and planting the trees that would otherwise have been required to be planted on site, as determined by the City's Tree Replacement Cost Schedule. Payment in lieu of planting trees on site shall be made at the time of the issuance of any building permit for the property or completion of the project permit requiring the tree replacement, whichever occurs first.

H. *Trimming.* Trimming of tree limbs and branches for purposes of vegetation management is permitted, provided the trimming does not cause the tree to be a safety hazard. [Ord. 726 § 2 (Exh. B), 2019.]

18A.70.330 City Tree Fund.

A. *Funding Sources.* All civil penalties received under this chapter and all money received pursuant to Chapter [14.02](#) LMC, Environmental Rules and Procedures, shall be used for the purposes set forth in this section. In addition, the following sources may be used for the purposes set forth in this section:

1. Agreed-upon restoration payments or settlements in lieu of penalties;
2. Donations and grants for tree purposes;
3. Other moneys allocated by the City Council.

B. *Funding Purposes.* The City shall use money received pursuant to this section for the following purposes:

1. Acquiring, maintaining, and preserving wooded areas within the City;
2. Planting and maintaining trees within the City;
3. Establishment of a holding public tree nursery;
4. Urban forestry education;
5. Implementation of a tree canopy monitoring program;
6. Scientific research; or
7. Other purposes relating to trees as determined by the City Council. [Ord. 726 § 2 (Exh. B), 2019.]

The Lakewood Municipal Code is current through Ordinance 767, passed December 20, 2021.

Disclaimer: The city clerk's office has the official version of the Lakewood Municipal Code. Users should contact the city clerk's office for ordinances passed subsequent to the ordinance cited above.

Note: This site does not support Internet Explorer. To view this site, Code Publishing Company recommends using one of the following browsers: Google Chrome, Firefox, or Safari.

[City Website: www.cityoflakewood.us](http://www.cityoflakewood.us)

City Telephone: (253) 589-2489

[Code Publishing Company](#)



TO: Lakewood Planning Commission

FROM: Ramon Rodriguez, Associate Planner

DATE: May 4, 2021

SUBJECT: Permit number 1622 Meadow Park 55 Design Review request to utilize Lakewood Municipal Code (LMC) 18A.90 Housing Incentives Program

Purpose: On May 4, the planning commission is scheduled to conduct a study session to review permit number *1622 Meadow Park 55 Design Review* (the addition of a 21 dwelling unit multifamily building) request to utilize LMC 18A.90 Housing Incentives Program.

Background: On November 24, 2020 the applicant submitted a design review application (LU-20-00207) for a 63 dwelling unit multifamily development. Due to timing constraints required to attain the density bonus pursuant to LMC 18A.90. the applicant modified the design review application to only include 42 dwelling units (proposed buildings 1 & 3). The modified design review approval would allow the applicant to receive the associated building permits for buildings 1 & 3. Meadow Park 55 received design review approval under permit number LU-20-00207 on November 19, 2021. The LU-20-00207 design review approval authorized the site design of a 42 dwelling unit multifamily development separated into 2 buildings consisting of 21 dwelling units per building, with 63 parking stalls perimeter landscaping and associated infrastructure improvements. The applicant, Meadow Park Brownstones LLC, has requested city staff to amend LU-20-00207 design review approval to include the third building for a total of 63 units, all fifty-five and over with an inclusionary density bonus.

Pursuant to LMC 18A.90.050 in order to qualify for the inclusionary density bonus the owner of the affected parcels shall deliver to the City a duly executed covenant running with the land, in a form approved by the City Attorney, requiring that the qualified dwellings created pursuant to this section shall remain as such for a period of at least twenty (20) years from the commencement date. The covenant shall form an enduring contractual agreement between the owner/applicant and the City.

The referenced covenant/ enduring contractual agreement is considered a Development Agreement.

Per LMC 18A.20.080 a Development Agreement is considered type V Legislative application. A type V legislative application is subject to noticing requirements found in LMC 18A.20.310 and requires the Community Development Director and Planning Commission to make Recommendation to a High Review Authority. City Council would have to make a decision on the proposed development agreement.

The commission has been requested to review the subject, and forward recommendation(s) to the city council.

Discussion:

Housing Incentives Program

18A.90 Housing Incentives Program offers inclusionary density bonus, development standards modifications and fee reductions. The Meadow Park 55 design review is requesting to utilize the density bonus.

Density Bonus

The subject project is located at 7721, 7731 Dean Street West and 5402 77th Street West and is proposing a fifty-five and older 63 unit multifamily development. The subject property is located within the Multifamily 2 (MF2) zoning district. Per LMC 18.60.030.A the density associated the MF2 zoning district is 35 dwelling units per acre. LMC 18A.90.050 allows for a maximum density increase of twenty (20) percent of the MF2 base density. The site's area is 66,703 or 1.53 acres. $1.53 \times 35 = 53.55$ or 54 units allowed under the base density. 54×0.2 (18A.90.050) = 10.8 + 54 (allowed per base density) = 64.8 or 65 max density under LMC 18A.90.050.

Per LMC 18A.90.050.A 1.5 additional, on-site market rate dwelling units are permitted as a bonus for each qualified extremely-low-income¹ dwelling units provided. The applicant is proposing to provide six (6) extremely-low-income units as part of the development. $6 \times 1.5 = 9$ unit density bonus. 54 (allowed per base density) + 9 (density bonus) = 63 total allowed density. The extremely-low-income qualified units are proposed to be provided within the entire development.

Parking

Pursuant to LMC 18A.80.030. F. there are no parking regulations associated with senior housing or fifty-five and over multifamily developments.

¹ Pursuant to LMC 18A.10.180 "Extremely low income" means an individual, family, or unrelated persons living together, regardless of age or ability, whose adjusted gross income is thirty (30) percent or less of the median income, adjusted for household size, as determined by the United States Department of Housing and Urban Development for the Tacoma Primary Metropolitan Statistical Area.

Senior Citizen Apartments (55 and over) are listed in the parking table found in 18C, which regulates the Lakewood Station District. In the Lakewood Station District 1 parking space is required per 3 Senior Citizen Dwelling Units. Given that this property is not located in the station district, this standard does not directly apply. In the absence of city-wide fifty-five and over parking regulations, per LMC 18A.80.060(H), the applicant has provided a parking study to support a one parking stall per dwelling unit development standard. The applicant is proposing 63 dwelling units and will provide 63 off-street parking stalls. The director has approved the parking ratio as permitted in LMC 18A.80.060. The applicant is not proposing a further reduction as part of this request.

Project Summary and Status.

The applicant has submitted the following permit applications.

Permit number	Permit Type	Status
LU-20-00207 1622	Design Review	Approved on 11/19/2021 for 42 dwelling units (buildings number 1 & 3)
		Pending- under review for 21 dwelling units (building number 2)
LU-20-00230	SEPA	Mitigated Determination of non-significance issued on 11/19/2021
LU-21-00066	Boundary Line Adjustment	Approved and recorded on 9/9/2021
BP-21-00047	New Commercial Building Permit	Approved on 4/04/2022 (building number 1)
BP-21-00048	New Commercial Building Permit	Pending design review approval (permit number 1622)
BP-21-00049	New Commercial Building Permit	Approved on 4/04/2022 (building number 3)
PW-21-00027	Site Development Permit	Approved and issued on 12/27/2021

Permit number 1622 is currently under review however cannot be approved until the required Housing Incentive Covenant is accepted and recorded subject to LMC 18A.90.050.

The project is in substantial compliance with the development standards found in LMC 18A.

Next Steps:

May 18, 2022- Planning Commission will hold a public hearing

May 18, 2022- Planning Commission Action

June-July, 2022- City Council Review

Attachments:

1. Meadow Park 55 Housing Incentives Covenant
2. Project Site plan

WHEN RECORDED, MAIL TO:

City of Lakewood
6000 Main Street SW
Lakewood, WA 98499-5027

ATTN: City Clerk
Assistant City Manager for Development Services

WASHINGTON STATE COUNTY AUDITOR/RECORDER/S INDEXING FORM

Document Title(s) <i>(or transactions contained therein):</i> HOUSING INCENTIVES COVENANT
Reference Number(s) of Documents assigned or released: <input type="checkbox"/> Additional reference numbers on page ____ of document.
Grantor(s) <i>(Last name first, then first name and initials):</i> 1. <u>Meadow Park Brownstones, LLC</u> <input type="checkbox"/> Additional names on page ____ of document.
Grantee(s) <i>(Last name first, then first name and initials):</i> 1. <u>CITY OF LAKEWOOD, WASHINGTON</u> <input type="checkbox"/> Additional names on page ____ of document.
Legal Description <i>(abbreviated form; i.e., lot, block, plat name, section-township-range):</i> <input checked="" type="checkbox"/> Additional legal on Exhibit "A" of document.
Assessor's Property Tax Parcel Account Number(s): <u>3905000677</u>

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document.

HOUSING INCENTIVES COVENANT

"MEADOW PARK GARDENS"

THIS HOUSING INCENTIVES COVENANT (the "Covenant") is made and entered into as of this _____ day of July, 2021, by and between the CITY OF LAKEWOOD, a Municipal Corporation of the State of Washington (the "City"); Meadow Park Brownstones, LLC, a Washington limited liability company (the "Owner").

WHEREAS, the City has an interest in stimulating new construction of multi-family housing in order to reduce development pressure on single-family residential neighborhoods, increase and improve housing opportunities, provide affordable housing opportunities, and encourage development densities supportive of transit use; and

WHEREAS, the City is responsible for establishing regulations that will result in housing opportunities for all of its residents, no matter what their economic means; and

WHEREAS, the City desires to disperse low-income units throughout the City so as to avoid perpetuating existing concentrations of poverty; and

WHEREAS, as a means to promote housing opportunities, the City has established Lakewood Municipal Code (LMC), Chapter 18A.90, Housing Incentives Program, to allow for higher residential densities in exchange for building low-income housing units; and

WHEREAS, the Owner has made application to receive an inclusionary density bonus pursuant to LMC 18A.90.050; and

WHEREAS, the Owner submitted to the City a complete application for inclusionary density bonus outlining the proposed Project to be constructed on property located at Lakewood Drive West & 77th Street West in Lakewood, Washington ("Property") and legally described in **Exhibit A** of this Covenant; and

WHEREAS, in consideration of the City's approval of Permit No(s). LU 20-00207, the Owner accepts certain conditions affecting the use of the Property and the improvements authorized by Permit

No(s). LU 20-00207. It is the purpose of this Covenant to set forth those conditions and to impose enforceable restrictions on the use and occupancy of the residential portion of the Property; and

WHEREAS, on June 30, 2021, the assistant city manager for development services determined that the application met all the eligibility and procedural requirements to qualify for an inclusionary density bonus, with the exception of entering in to and recording this Covenant; and

WHEREAS, the City has determined that the improvements will, if completed as proposed, satisfy the requirements of LMC 18A.90, Housing Incentives Program.

NOW, THEREFORE, for and in consideration of the mutual promises aforesaid and made and relied upon by the parties hereto, and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Owner and the City mutually agree as follows:

SECTION 1 – DEFINITIONS

Unless otherwise expressly provided herein, the following terms shall have the respective meanings set forth below. If a term is not defined herein, then it shall be defined as provided in LMC 18A.10.180 or given its usual and customary meaning.

"Affordable Units" means the six (6) units in the Project designated by the Owner and approved by the City, as set forth in **Exhibit B**, and reserved for occupancy by Eligible Households with maximum rents pursuant to Section 3.

"Certificate of Occupancy" means a document issued by the City's Building Official certifying a building's compliance with applicable building codes and other laws, and indicating that the structure(s) are in a condition suitable for occupancy

"City's Designee" mean that individual(s) authorized by the City to administer this Covenant.

"Completion Date" means the date of the first certificate of occupancy issued by the City for the Project.

"Dwelling Unit" means a residential living facility, used, intended or designed to provide physically segregated complete independent living facilities for one or more persons, including living, sleeping, cooking and sanitation facilities.

"Eligible Household" means one or more adults and their dependents who meet the qualifications for eligibility set forth in Section 3.F. or Section 3.I.

"Extremely low income" means an individual, family, or unrelated persons living together, regardless of age or ability, whose adjusted gross income is thirty (30) percent or less of the median income, adjusted for household size, as determined by the United States Department of Housing and Urban Development.

"Household Income" means gross annual income from all household members over the age of 18 residing in the household. Gross annual income consists of all wages, benefits (e.g. military, unemployment, welfare), interest, and other such income. Income of dependents over the age of 18 who reside within a household for less than three (3) months of the year will not be counted toward Household Income.

"Household Size" means all of the persons, related or unrelated, occupying an Affordable Unit. For the purpose of calculating maximum Housing Expenses, the following assumptions apply:

<u>UNIT TYPE</u>	<u>ASSUMED HOUSEHOLD SIZE</u>
Studio	1 Person
Open 1-Bedroom	1.5 Persons
1 Bedroom	1.5 Persons
2 Bedroom	3 Persons
3 Bedroom	4.5 Persons

"Housing Expense" means a tenant's costs for rent, utilities or an equivalent utility allowance, and any recurring expenses required by the Owner as a condition of tenancy. Expenses that the Owner makes optional, such as pet rent, extra storage space or parking, are not considered Housing Expenses for the purpose of this Covenant.

"Median Income" means Pierce County, WA, median household income as determined by the United States Department of Housing

and Urban Development (HUD). In the event that HUD no longer publishes median family income figures, the City may estimate the Median Income applicable to the City in such manner as the City shall determine in its sole discretion.

"Very low-income" means an individual, family, or unrelated persons living together, regardless of age or ability, whose adjusted gross income is fifty (50) percent or less of the median income, adjusted for household size, as determined by the United States Department of Housing and Urban Development.

"Property" means the real property, together with improvements, legally described in **Exhibit A**.

"Project" means the Owner's multi-family residential building containing sixty three(63) Dwelling Units also known as "Meadow Park Gardens."

"Compliance Period" means twenty (20) years from the date of initial occupancy of the Affordable Units.

"LMC" means the Lakewood Municipal Code, as it now exists or hereinafter amended.

"Utility" or "Utilities" means water, electricity, natural gas, sewer, and garbage collection but not including phone, internet service, or cable or satellite television.

"Utility Allowance" means that portion of Housing Expenses that the City determines, from time to time, is adequate for the reasonable Utility costs of Affordable Units in the event the Owner makes tenants responsible for payment for their own Utilities.

SECTION 2 – THE PROJECT

A. General Description. The Owner will construct the Project for purposes of providing multi-family rental housing, and the Owner shall own, manage, and operate (or cause the management and operation of) the Project. The Owner agrees to construct the Project in compliance with all applicable land use regulations and as approved and permitted by the City.

B. Conversion from Renter-Occupied to Owner-Occupied. In the event the Property is proposed for conversion to a condominium,

owner-occupied, or non-rental residential use during the Compliance Period, the Owner must submit to the City for its review a plan for preserving the Affordable Units. The City may consider options which would convert the Affordable Units to owner-occupancy by Eligible Households. The Owner must receive authorization from the City prior to conversion to condominium, owner-occupied, or non-rental residential use. This section does not waive the Owner's obligations to comply with any other law or regulations pertaining to conversion to ownership use.

SECTION 3 – AFFORDABLE UNITS FOR ELIGIBLE HOUSEHOLDS

A. Number of Affordable Units. The Project shall include the number and types of Affordable Units as set forth in the table below.

Dwelling Units in the Project

Unit Type (Bedrooms)	Total Units	Very Low Income Units	Extremely Low Income Units
Studio	0	0	0
Open 1-bedroom	18	0	2
1-bedroom	27	0	2
2-bedroom	18	0	2
Total	63	0	6

B. Similar Quality Construction. All of the Dwelling Units in the Project shall be constructed of similar quality. The finish and quality of flooring, counters, appliances, and other interior features of the Affordable Unit(s) shall be comparable to or better than entry level market rate housing in Lakewood, Washington, as determined by the City and have substantially the same net square footage, equipment, and amenities as other Dwelling Units in the Project with a comparable number of rooms.

C. Designation of Affordable Units. Affordable Units shall be generally distributed throughout the Project. The Owner agrees to designate the Dwelling Units identified in **Exhibit B** as Affordable Units. The Owner, from time to time, may propose to change the specific Dwelling Units designated as Affordable Units herein, in which case the Owner shall notify the City of the proposed change in writing for the City's approval. The City will review the proposed changes and shall approve or deny the proposed changes based upon the criteria that at all times at least six

(6) of all of the Dwelling Units in the Project are designated as Affordable Units, and provided that at all times the same unit mix and affordability mix is retained.

D. Maximum Rents for Affordable Units.

(1) The Housing Expense of an Affordable Unit shall not exceed thirty percent (30%) of the Income Level with adjustments for assumed Household Size. An Affordable Unit's contract rent shall not exceed the tenant's maximum Housing Expense less a Utility Allowance, if applicable, and any other recurring expenses required by the Owner as a condition of rental.

(2) No Affordable Unit's tenant shall have more than one rent increase for the same Unit in any twelve (12)-month period; provided, however, that in the event an Affordable Unit's lease expires and said tenant elects to continue leasing the Affordable Unit on a month-to-month tenancy, and the tenant remains an Eligible Household, the Owner may increase the rent for that Affordable Unit up to once every thirty (30) days but no higher than the maximum contract rent as set forth in this section.

E. Renting Affordable Units to Eligible Households. During the Compliance Period, the Owner shall lease or rent, or make available for lease or rental, to Eligible Households all of the Affordable Units in the Project. Owner's compliance with this obligation may be established by Owner's participation, throughout the Compliance Period, in the HUD funded Housing Assistance Program (HAP) under Section 8 of the United States Housing Act of 1937, administered through the Pierce County Housing Authority. If at any time the Owner is unable to rent or lease an Affordable Unit, then the Affordable Unit shall remain vacant pending rental or lease to Eligible Households.

F. Income Qualifications for Eligible Households.

(1) To qualify as an Eligible Household for initial occupancy of an Affordable Unit, a household's Household Income may not exceed the applicable Percent of Median Income set forth in the table below, adjusted for Household Size.

(2) At time of recertification, as provided in Section I below, a tenant will remain an Eligible Household as long as said tenant's Household Income does not exceed the Maximum Income for Recertification.

G. Occupancy Limits for Affordable Units. The Owner shall utilize the following occupancy standards for Affordable Units:

Unit Type	Minimum Occupants
Studio or 1 bedroom	1 person
2-bedroom	2 persons
3-bedroom	3 persons
4-bedroom	4 persons

H. Completion of Certificate of Household Eligibility. Prior to allowing any household to occupy any Affordable Unit, the Owner shall require the prospective tenant to complete a Certification of Household Eligibility ("COHE") that shall be substantially in the form set forth in **Exhibit C**. The Owner shall also undertake a good faith effort to verify the prospective tenant's Household Income, as reported on the completed COHE. The Owner's obligation to verify the reported Household Income shall be limited to requesting copies of and reviewing the prospective tenant's federal income tax returns, unless the Owner has actual knowledge, or reason to believe, that the information provided by the prospective tenant is materially inaccurate. In the event federal income tax returns are not available, the Owner shall verify Household Income using wage or salary statements, or other income records that the City may consider. Owner's obligations set forth in this Section H. may be satisfied by Owner's participation in the HUD funded Housing Assistance Program (HAP) under Section 8 of the United States Housing Act of 1937, administered through the Pierce County Housing Authority throughout the Compliance Period.

I. Household Eligibility Recertification. At each renewal of a lease for an Affordable Unit, and at least once each calendar year, the Owner shall require all tenants occupying Affordable Units to complete and return to the Owner an updated COHE. The Owner shall undertake a good faith effort to verify the reported Household Income as set forth in Section 3(H). If a tenant's Household Income exceeds the Maximum Income for Recertification set forth below when the tenant's lease expires, then within ninety (90) calendar days either (a) the Owner, after providing timely notice, may charge said tenant the current, applicable market rent for the Dwelling Unit and the Owner must designate and rent the next available comparable market rate Dwelling Unit as an

Affordable Unit, or (b) the tenant must vacate the Dwelling Unit, unless otherwise prohibited by law, so as to make it available for an Eligible Household. Equal Access to Common Facilities. Tenants in the Affordable Units shall have equal access to all amenities and facilities of the Project, such as parking, fitness centers, community rooms, and swimming pools. If a fee is charged for the use of an amenity or facility, then all tenants in the Project must be charged equally for such use.

SECTION 4 – ENFORCEMENT

A. Enforcement Provisions. The Owner shall exercise reasonable diligence to comply with the requirements of this Contract and shall correct any such noncompliance within sixty (60) calendar days after such noncompliance is first discovered by the Owner or would have been discovered by the exercise of reasonable diligence, or within 60 calendar days after the Owner receives notice of such noncompliance from the City, whichever is earliest; provided however, that such period for correction may be extended by the City if the Owner is exercising due diligence to correct the noncompliance. If such noncompliance remains uncured after such period, then the Owner shall be in default and the City on its own behalf may take any one or more of the following actions:

(1) By any suit, action or proceeding at law or in equity, require the Owner to perform its obligations under this Contract, or enjoin any acts or things which may be unlawful or in violation of the rights of the City hereunder; it being recognized that the beneficiaries of the Owner's obligations hereunder cannot be adequately compensated by monetary damages in the event of the Owner's default;

(2) Have access to, and inspect, examine and make copies of, all of the books and records of the Owner pertaining to the Project. Provided, however, the City shall not divulge such information to any third party unless required by law or unless the same is necessary to enforce the City's rights hereunder; and

(3) Take such other action at law or in equity as may appear necessary or desirable to enforce the obligations, Covenants, conditions and agreements of the Owner under this Contract.

SECTION 5 – REPORTING REQUIREMENTS

A. Notice of Occupancy Permit. The Owner shall notify the City's Designee of receipt of the first occupancy permit for the Project within thirty (30) calendar days of the permit's issuance.

B. Initial Project Certification. After the Completion Date and until ninety percent (90%) of all rental units in the Project are occupied, the Owner shall file with the City a Project Certification report, substantially in the form of **Exhibit D**, attached with copies of the COHE required under Section 3 of this Contract.

C. Annual Project Certification. The Owner shall file with the City Manager, within thirty (30) days following the first anniversary of the City's filing of the Final Certificate and each year thereafter for the duration of the Compliance Period, a report substantially in the form of **Exhibit D**, attached with copies of the COHE and which includes information from the preceding year providing:

(1) A statement of occupancy and vacancy of the newly constructed or rehabilitated Project during the past twelve (12) months ending with the anniversary date;

(2) A certification by the Owner that the Project has not changed use since the date the City approved the certificate of occupancy and that the Project conforms with affordable housing requirements of Chapter 18A.90 LMC; and

(3) A description of any subsequent changes or improvements constructed after issuance of the certificate of occupancy.

D. Maintain Complete Records. The Owner shall maintain complete and accurate records pertaining to the Affordable Units and shall, during regular business hours, permit any duly authorized representative of the City, including, without limitation, the City's Designee, to inspect the books and records of the Owner pertaining to the Affordable Units, including the Initial and Annual Project Certifications, and if applicable, income documentation of households residing in Affordable Units in the Project. The Owner's failure to maintain such records or failure to allow inspection by the City or any duly authorized representative shall constitute a material default hereunder. The

Owner shall retain all records pertaining to the Affordable Units for at least six (6) years.

E. Form of Certification. Notwithstanding anything in this Section to the contrary, the Owner shall submit all documentation required by this Section on the forms designated herein, which may be modified by the City from time to time. Changes to forms by the City shall not increase the Owner's obligations hereunder.

SECTION 5 – SUBSIDIZED TENANTS

The Owner shall accept as tenants for Affordable Units, on the same basis as all other prospective households, households who receive state or federal rent subsidies, such as Housing Choice Vouchers under Section 8 of the United States Housing Act of 1937, or other rent subsidies. The Owner shall not apply, or permit the application of, management policies or lease provisions with respect to the Project which have the effect of precluding occupancy of any Dwelling Units by rent subsidy recipients.

SECTION 6 – LEASE PROVISIONS

A. It is the Owner's responsibility to screen and select tenants for desirability and credit worthiness. Except as restricted in this Contract and under state and federal law, such selection is within the Owner's discretion. If written management policies exist, or exist in the future, with respect to the Project, the City may review such written policies and may require changes in such policies, if necessary, so that the policies comply with the requirements of this Contract.

B. All leases for Eligible Households shall contain clauses wherein each individual lessee: (i) certifies the accuracy of the statements made in the COHE, (ii) agrees that the Household Income and other eligibility requirements shall be deemed substantial and material obligations of the tenancy, and (iii) agrees that misrepresentation in the COHE is a material breach of the lease, entitling the Owner to immediately terminate tenant's lease for the Affordable Unit.

SECTION 7 – SALE OR TRANSFER OF THE PROJECT

The Owner hereby Covenants and agrees not to sell, transfer or otherwise dispose of the Project or any portion thereof without first providing a written statement executed by the purchaser that

the purchaser understands the Owner's duties and obligations under this Covenant and will enter into an agreement with the City for the continuation of those obligations. Such notice must be received by the City at least ten (10) working days prior to the close of escrow.

SECTION 8 – TERM

This Contract shall become effective upon its execution and shall continue in full force and effect throughout the Compliance Period.

SECTION 9 – NO DISCRIMINATION

The Owner shall not discriminate on the basis of race, creed, religion, color, sex, sexual orientation, age, national origin, marital status, or presence of any mental or physical handicap as set forth in RCW 49.60.030, as now existing and as may be amended, in the lease, use, or occupancy of the Project or in connection with the employment or application for employment of persons for the operation and management of the Project.

SECTION 10 – COVENANTS RUN WITH LAND

A. The City and Owner hereby declare their understanding and intent that the Covenants, conditions and restrictions set forth herein directly benefit the land (i) by enhancing and increasing the enjoyment and use of the Project by certain Eligible Households, and (ii) by furthering the public purposes of providing housing for Eligible Households.

B. The City and the Owner hereby declare that the Covenant and conditions contained herein shall bind and the benefits shall inure to, respectively, the Owner and all subsequent owners of the Project or any interest therein, and the City, all for the Compliance Period. Except as provided in Section 12 of this Contract, each and every contract, deed or other instrument hereafter executed conveying the Project or any portion thereof or interest therein shall contain an express provision making such conveyance subject to the Covenants and conditions of this Contract, provided however, that any such contract, deed or other instrument shall conclusively be held to have been executed, delivered and accepted subject to such Covenants and conditions, regardless of whether or not such Covenants and conditions are set

forth or incorporated by reference in such contract, deed or other instrument.

C. Hold Harmless. The Owner shall defend, indemnify, and hold the City, its officers, officials, employees, volunteers and its Designee and any other party authorized hereunder to enforce the terms of this Contract, harmless from any and all claims, injuries, damages, losses, or suits, including attorney fees, arising out of or resulting from this Contract. This provision shall survive termination or expiration of this Contract.

D. No Third-Party Beneficiaries. The provisions of this Contract and of the documents to be executed and delivered in connection herewith are and will be for the benefit of the Owner and the City only and, are not for the benefit of any third party (including, without limitation, any tenants or tenant organizations), and accordingly, no third party shall have the right to enforce the provisions of this Contract or of the documents to be executed and delivered in connection herewith.

SECTION 11 – FORECLOSURE

In the case of any foreclosure, the immediate successor in interest in the Property pursuant to the foreclosure shall assume such interest subject to the lease(s) between the prior Owner and the tenant(s) and to this Contract for Affordable Units. This provision does not affect any state or local law that provides longer time periods or other additional protections for tenants.

SECTION 12 – ESTOPPEL CERTIFICATE

The City agrees, upon the request of the Owner or its successor in interest, to promptly execute and deliver to the Owner or its successor in interest or to any potential or actual purchaser, mortgagor, or encumbrancer of the Project, a written certificate stating, if such is true, that the City has no knowledge of any violation or default by the Owner of any of the Covenants or conditions of this Contract, or if there are such violations or defaults, the nature of the same.

SECTION 13 – BINDING EFFECT

The provisions, and conditions contained in this Covenant are binding upon the parties hereto and their legal heirs,

representatives, successors, assigns, and subsidiaries and are intended to run with the land.

SECTION 14 – AGREEMENT TO RECORD

The Owner shall cause this Contract to be recorded in the real property records of Pierce County, Washington. The Owner shall pay all fees and charges incurred in connection with such recording and shall provide the City with a copy of the recorded document.

SECTION 15 – RELIANCE

The City and the Owner hereby recognize and agree that the representations and Covenants set forth herein may be relied upon by City and the Owner. In performing its duties and obligations hereunder, the City may rely upon statements and certificates of the Owner and Eligible Households, and upon audits of the books and records of the Owner pertaining to occupancy of the Project. In performing its duties hereunder, the Owner may rely on the Certificates of Household Eligibility unless the Owner has actual knowledge or reason to believe that such Certificates are inaccurate.

SECTION 16 – GOVERNING LAW

This Contract shall be governed by the laws of the State of Washington, except to the extent such laws conflict with the laws of the United States or the regulations of federally insured depository institutions or would restrict activities otherwise permitted in relation to the operation of federally insured depository institutions. Venue for any legal actions shall be in Pierce County Superior Court or, if pertaining to federal laws, the U.S. District Court for Western Washington.

SECTION 17 – NO CONFLICT WITH OTHER DOCUMENTS

The Owner warrants that it has not executed and will not execute, any other agreement with provisions contradictory to, or in opposition to, the provisions hereof, and that in any event the requirements of this Contract are paramount and controlling as to the rights and obligations herein set forth and supersede any other requirements in conflict herewith.

SECTION 18 – AMENDMENTS

This Contract shall be amended only by a written instrument executed by the parties hereto or their respective successors in interest, and duly recorded in the real property records of Pierce County, Washington. Amendments to **Exhibit B** shall be considered approved in writing when the **Revised Exhibit B** is signed by the Owner and the City without the need for a further written document attaching the revised exhibit and striking prior versions of the exhibit. In the event of conflict between versions of **Exhibits B**, the version maintained by the City as the then-current version, signed by Owner and City, shall prevail.

SECTION 19 – NOTICE

A. Any notice or communication hereunder, except legal notices, shall be in writing and may be given by registered or certified mail. The notice or communication shall be deemed to have been given and received when deposited in the United States Mail, properly addressed with postage prepaid. If given otherwise, it shall be deemed to be given when delivered to and received by the party to whom addressed. Such notices and communications shall be given to the Parties' representatives hereto at their following addresses:

If to the City: City of Lakewood
6000 Main Street SW
Lakewood, WA 98499-5027
Attn: City Manager

With a copy to the City's Designee:
Assistant City Manager for Development
Services
6000 Main Street SW
Lakewood, WA 98499-5027

If to the Owner:
Meadow Park Brownstones LLC
10609 Gravelly Lake Dr SW
Lakewood, WA 98499

Attn: Claude Remy

With a copy to: Christopher M. Huss
Attorney at Law

4224 Waller Road E.
Tacoma, WA 98443

Attn: Christopher M. Huss

B. Any party may change its identified representative and address for notices upon ten (10) calendar days prior written notice to the other parties. Legal counsel for a party may deliver notices on behalf of the represented party and such notice shall be deemed delivered by such party.

SECTION 20 – SEVERABILITY

If any provision of this Contract shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions hereof shall not in any way be affected or impaired thereby.

SECTION 21 – CONSTRUCTION

Unless the context clearly requires otherwise, words of the singular number shall be construed to include the plural number, and vice versa, when appropriate. All the terms and provisions hereof shall be construed to effectuate the purposes set forth in this Contract and to sustain the validity hereof.

SECTION 22 – TITLES AND HEADINGS

The titles and headings of the sections of this Contract have been inserted for convenience of reference only, are not to be considered a part hereof and shall not in any way modify or restrict any of the terms or provisions hereof or be considered or given any effect in the construing this document or any provision hereof or in ascertaining intent, if any question of intent shall arise.

SECTION 23 – COUNTERPART ORIGINALS

This Agreement may be executed in any number of counterpart originals, each of which shall be deemed to constitute an original agreement, and all of which shall constitute one agreement. The execution of one counterpart by a Party shall have the same force and effect as if that Party had signed all other counterparts.

SECTION 24 - AUTHORITY TO EXECUTE

Each person executing this Agreement on behalf of a Party represents and warrants that he or she is fully authorized to execute and deliver this Agreement on behalf of the Party for which he or she is signing. The Parties hereby warrant to each other that each has full power and authority to enter into this Agreement and to undertake the actions contemplated herein and that this Agreement is enforceable in accordance with its terms.

IN WITNESS WHEREOF, the Owner and City have each executed this Housing Incentives Covenant on the Date first above written.

Owner:

City:

Meadow Park Brownstones LLC

By:_____

Its:

Manager_____

Name: Claude Remy

John Caulfield

City Manager

Approved as to Form:

Heidi Ann Wachter

City Attorney

STATE OF WASHINGTON }
 } ss.
COUNTY OF PIERCE }

On this ____ day of July, 2021, before me, a Notary Public in and
for the State of Washington, duly commissioned and sworn,
personally appeared _____, known to me to be the
_____ of the CITY OF LAKEWOOD, who executed the
foregoing document on behalf of said City, and acknowledged the
said document to be the free and voluntary act and deed of said
City, for the uses and purposes therein mentioned, and on oath
stated that he or she was authorized to execute said document.

IN WITNESS WHEREOF I have given under my hand and official seal
this ____ day of July, 2021.

Notary Public in and for the State
of Washington.

Print Name _____

Residing at _____

My commission expires _____

STATE OF WASHINGTON }
 } ss.
COUNTY OF PIERCE }}

On this ____ day of July, 2021, before me, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Claude Remy, to me known to be the Manager of Meadow Park Brownstones LLC, a Washington limited liability company, who executed the foregoing instrument on behalf of the said company, and acknowledged the said document to be the free and voluntary act and deed of said company for the uses and purposes therein mentioned, and on oath stated that he or she was authorized to execute said document.

IN WITNESS WHEREOF I have given under my hand and official seal this __ day of July, 2021.

Notary Public in and for the State
of Washington.

Print Name _____

Residing at _____

My commission expires _____

EXHIBIT A

LEGAL DESCRIPTION

PARCEL A:

LOTS 1 THROUGH 12, BLOCK 36, AND LOTS 9 THROUGH 12 BLOCK 37, FLETT, ACCORDING TO PLAT RECORDED IN VOLUME 5 OF PLATS AT PAGE 17, RECORDS OF PIERCE COUNTY AUDITOR;

TOGETHER WITH THAT PORTION OF VACATED ALLEY ADJOINING OR ABUTTING THEREON, VACATED BY PIERCE COUNTY RESOLUTION NO. 14555, RECORDED UNDER RECORDING NO. 2364668, WHICH UPON VACATION, ATTACHED TO SAID PREMISES BY OPERATION OF LAW;

ALSO TOGETHER WITH THAT PORTION OF VACATED 78TH STREET WEST ADJOINING OR ABUTTING BLOCK 36 AND BLOCK 37, VACATED BY PIERCE COUNTY RESOLUTION NO. 20023, RECORDED UNDER RECORDING NO. 2763127, WHICH UPON VACATION, ATTACHED TO SAID PREMISES BY OPERATION OF LAW;

ALSO TOGETHER WITH THAT PORTION OF VACATED 78TH STREET WEST ADJOINING AND ABUTTING BLOCK 62 AND BLOCK 63 OF SAID PLAT OF FLETT, VACATED BY PIERCE COUNTY RESOLUTION NO. 20023, RECORDED UNDER RECORDING NO. 2763127, WHICH UPON VACATION, ATTACHED TO SAID PREMISES BY OPERATION OF LAW;

AND ALSO TOGETHER WITH THAT PORTION COMMON TO VACATED B STREET AS VACATED BY JUDGMENT ENTERED NOVEMBER 8, 2000 IN PIERCE COUNTY SUPERIOR COURT CASE NO. 00-2-13030-4 AND VACATED 78TH STREET WEST AS VACATED BY PIERCE COUNTY RESOLUTION NO. 20023, RECORDED UNDER RECORDING NO. 2763127, LYING NORTHERLY OF THE NORTH LINE OF LOT 1 OF SAID BLOCK 62 EXTENDED WESTERLY TO THE CENTERLINE OF SAID B STREET.

EXCEPT THE EAST 5 FEET OF SAID BLOCK 36 CONVEYED TO PIERCE COUNTY UNDER RECORDING NO. 2349401;

SITUATE IN THE CITY OF LAKEWOOD, COUNTY OF PIERCE, STATE OF WASHINGTON.

EXHIBIT B

DESIGNATION OF AFFORDABLE UNITS

Unit Number	Unit Type	Unit Size (Square feet)
101	Unit A	818
201	Unit A	818
104	Unit D	467
204	Unit D	467
206	Unit E	500
306	Unit E	500

EXHIBIT C

FORM OF CERTIFICATE OF HOUSEHOLD ELIGIBILITY

CERTIFICATION OF HOUSEHOLD ELIGIBILITY

I, _____, and I, _____, as applicants for rental of the following Affordable Unit, do hereby represent and warrant that my/our adjusted annual income is \$ _____

Project: _____ Project Address: _____

Unit # _____ No. of Bedrooms: _____ Household size:1* _____ Disabled: Yes / No

The attached computation is \$ _____, and includes all income I/we received for the date I/we execute a rental agreement for an affordable unit, or the date on which I/we will initially occupy such unit, whichever is earlier.

This affidavit is made with the knowledge that it will be relied upon by the City to determine maximum income for eligibility. I/We warrant that all information set forth in this Certification of Household Eligibility is true, correct and complete based upon information I/We deem reliable, and that the estimate contained in the preceding paragraph is reasonable and based upon such investigation as the undersigned deemed necessary. I/we will assist the Owner in obtaining any information or documents required to verify the statements made in this Certification.

I/We acknowledge that I/we have been advised that the making of any misrepresentation or misstatement in this affidavit will constitute a material breach of my/our agreement with the Owner to lease the unit and will entitle the Owner to prevent or terminate my/our occupancy of this unit by institution of an action for eviction or other appropriate proceedings.

I/We do hereby swear under penalty of perjury that the foregoing statements are true and correct.

Applicant _____	Applicant _____
Date _____	Date _____
Mailing Address _____	Mailing Address _____
E-mail Address _____	E-mail Address _____
Phone _____	Phone _____

1 The number of people who will reside with you at least four (4) months of the year.

EXHIBIT C TO MULTIFAMILY HOUSING LIMITED PROPERTY TAX EXEMPTION
CONTRACT

HOUSEHOLD MEMBERS

Name	Age	Name	Age
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

INCOME COMPUTATION

"Household income" includes all items listed below, from all household members over the age of 18. Income of dependents over 18, who reside in the unit for less than four (4) months of the year will not be counted toward household income.

For the previous 12-month period, indicate income received from the following sources:

- a) The full amount, before any payroll deductions, of wages, salaries, overtime pay, commissions, fees, tips, bonuses and other compensation for personal services, and payments in lieu of earnings, such as unemployment and disability compensation, worker's compensation and severance pay and any earned income tax credit to the extent that it exceeds tax liability. \$ _____
- b) Net income from operations of a business or profession or net income of any kind from real or personal property. \$ _____
- c) Interest and dividends; \$ _____
- d) The full amount of periodic payments received from Social Security, pensions, retirement funds, annuities, insurance policies, disability or death benefits, alimony, child support, or any similar type of periodical payments, and any regular contributions or gifts from persons not residing in the unit. \$ _____
- e) Public assistance payments. \$ _____
- f) Regular and special allowances and pay of a member of the Armed Forces who is a spouse or head of the family. \$ _____
- TOTAL \$ _____

(NOTE: The following are not considered income: occasional, infrequent gifts of money; one-time payments from insurance policies or an inheritance settlement; scholarships or student loans for tuition, fees or books; foster child care payments; the value of Food Stamp coupons;

EXHIBIT C TO MULTIFAMILY HOUSING LIMITED PROPERTY TAX EXEMPTION
CONTRACT

hazardous duty pay to a member of the Armed Forces; relocation payments; assistance received under the Low-Income Home Energy Assistance Program or any similar program).

EXHIBIT D

FORM OF ANNUAL PROJECT CERTIFICATION

ANNUAL PROJECT CERTIFICATION

Project: _____

Address: _____

The undersigned hereby certifies that as of _____, 20____, _____ units in the Project were utilized as Affordable Units, as required in the Regulatory Agreement, in the following manner:

- a) _____ units in the Project were rented to tenants who did not exceed the qualifying income for initial occupancy.
- b) _____ units in the Project were rented to tenants who exceeded the qualifying income for initial occupancy but remained qualified under the income for recertification.
- c) _____ units in the Project were rented to tenants who now exceed the qualifying income for recertification, and therefore can no longer be considered eligible for Affordable units.
- d) _____ units in the Project are being held vacant for Eligible Households.

The above information and that on the attached sheet(s) has been verified as required by the Regulatory Agreement between the City of _____ and:

Owner (Company) Name: _____

Name of Owner (Print)

Signature of Owner

Date: _____, 20____

EXHIBIT D TO MULTIFAMILY HOUSING LIMITED PROPERTY TAX EXEMPTION
CONTRACT

AFFORDABLE UNIT SUMMARY

Count each Affordable Unit in every applicable category. (For example, a unit that was occupied at the beginning of the year, was vacated and refilled by a qualified new occupant should be counted under both “New Occupants” and “Vacated and Re-filled.”)

Affordability	New Occupants	Recertified Occupants (refers to existing tenants who continue to occupy units after recertification)	Vacated and Re-filled Occupants (refers to a unit that has been vacated, and is now occupied by a new tenant)
30% AMI			
50% AMI			
Total			

EXHIBIT D TO MULTIFAMILY HOUSING LIMITED PROPERTY TAX EXEMPTION CONTRACT

ANNUAL PROJECT CERTIFICATION

PROJECT NAME _____

REPORTING PERIOD: _____ through _____.

Does Contract Rent include:										Are residents required to buy:	
Electricity	Yes	Water &	Yes	Garbage?	Yes	Renter's	Yes	One Parking	Yes	Renter's	Yes
& Gas?	No	Sewer?	No		No	insurance?	No	Space?	No	insurance?	No
For each "No" enter the Allowance or Fee below (except Renter's Insurance, if it's not required).											

Unit #	Tenant Name	Family Size	Move-in Date	Current Lease Date	Current HH Income*	Unit Type (BRs)	Affrd Level	Max Housing Expense**	Electric & Gas Allowance	Water & Sewer Allowance ***	Garbage Allowance (or Fee)	Insurance Allowance	Parking Fee	Max Rent	Current Contract Rent
														\$0	
														\$0	
														\$0	
														\$0	
														\$0	
														\$0	
														\$0	
														\$0	

* As of report date or when current lease was signed.

** Find on "Rental and Income Guidelines."

*** Maximum Housing Expenses also include water, sewer, and garbage. If these are paid for directly by the tenant (in addition to rent), the maximum rent must be reduced by the typical costs to the tenant of such utilities, or a set allowance established by the city (or ARCH).

ARCH Electric & Gas Allowances:

Studio
1-bedroom
2-bedroom
3-bedroom
4-bedroom
5-bedroom

Water & Sewer Allowances:

Studio
1-bedroom
2-bedroom
3-bedroom
4-bedroom
5-bedroom

Vacancy Status: The following units are vacant as of _____ and are being held vacant for eligible Tenants.

C:\Users\jmcarrm\G\Documents\2046_Meadow Park 55_Building 2_jmcarrm15.txt

LAND USE CODE ANALYSIS

18A.60.030(A) RESIDENTIAL AREA AND DIMENSIONS: DEVELOPMENT STANDARDS TABLE	ZONING DISTRICT	MF2
	HOUSING TYPE	MULTI-FAMILY APARTMENTS (55 AND OVER)
	LOT AREA	APPROX. 66,703 SF (1.527 ACRES)
	DENSITY CALCULATIONS	35 DUA (DWELLING UNITS PER ACRE) 35 x 1.53 = 53.5 or 54 UNITS ALLOWED
	BUILDING FOOTPRINT AREA	FLOOR 1 GROSS SQUARE FEET: 6,045 SF
	BUILDING COVERAGE	60% 66,703 x .6 = 40,021.8 SF ALLOWED 6,045 SF x 3 BUILDINGS = 18,135 SF (27.18%)
	IMPERVIOUS SURFACE	70% 66,703 x .7 = 46,692.1 SF ALLOWED 40,348 SF (60.5) PROPOSED
18A.70.040(C) SPECIFIC USES DESIGN STANDARDS	MULTIFAMILY RESIDENTIAL USES AND ZONES. THESE STANDARDS ARE INTENDED TO CREATE AN ATTRACTIVE AND ENJOYABLE ENVIRONMENT FOR MULTIFAMILY RESIDENTIAL USES, IMPROVE VEHICULAR CIRCULATION AND UPGRADE THE CITY'S VISUAL APPEARANCE IN HIGH-DENSITY RESIDENTIAL AREAS.	
	1. REQUIRED MULTIFAMILY SITE DESIGN AND BUILDING DESIGN ELEMENTS. THESE STANDARDS ARE IN ADDITION TO OTHER DEVELOPMENT STANDARDS APPLICABLE UNDER THIS ARTICLE OR OTHER CHAPTERS OF THE CODE. EXTERIOR LIGHTING SHALL COMPLY WITH LMC 18A.60.095.	
	A. SIGNIFICANT TREES SHALL BE RETAINED WITHIN THE LANDSCAPE BUFFER PERIMETER AROUND THE SITE, PURSUANT TO ARTICLE III, TREE PRESERVATION, OF THIS CHAPTER. SIGNIFICANT TREES SHALL BE RETAINED AND INCORPORATED INTO THE LANDSCAPING AND OPEN SPACE AREAS ON THE SITE, WHENEVER POSSIBLE. PROJECT NOTE: SEE LANDSCAPE SHEET L1.0 FOR EXISTING TREES TO REMAIN.	
	B. BUILDINGS SHALL BE DESIGNED TO HAVE A DISTINCT "BASE," "MIDDLE," AND "TOP." THE BASE, TYPICALLY THE FIRST FLOOR, SHALL CONTAIN THE GREATEST NUMBER OF ARCHITECTURAL ELEMENTS SUCH AS WINDOWS, MATERIALS, DETAILS, OVERHANGS, CORNICE LINES, AND MASONRY BELT COURSES. THE MIDDLE SECTION MAY BE SIMPLER. SINGLE-STORY BUILDINGS HAVE NO MIDDLE, BUT DO HAVE A BASE AND A TOP. THE TOP SHALL AVOID THE APPEARANCE OF A FLAT ROOF AND INCLUDE DISTINCTIVE ROOF SHAPES INCLUDING BUT NOT LIMITED TO PITCHED, VAULTED OR TERRACED ROOF LINES, ETC. ROOFLINES SHALL BE VARIED ON INDIVIDUAL BUILDINGS AND AMONG BUILDINGS IN A MULTIFAMILY RESIDENTIAL COMPLEX. PROJECT NOTE: EXTERIOR BUILDING DESIGN INCLUDES 4" STONE VENEER FOR A 'BASE', FIBER CEMENT PANEL/LAP SIDING FOR A 'MIDDLE', AND MODULATING ROOF ELEMENTS INCLUDING GABLES, PARAPETS, AND SHED ROOF LINES TO COMPLETE A 'TOP'. ADDITIONAL ELEMENTS INCLUDE DIFFERENT WINDOW TYPES, DIFFERENT WINDOW TRIM TRIM STYLES BASED ON SIDING, AND COVERED PATIOS/DECKS. SEE SHEETS A200 AND A201.	
	C. THE LONGEST DIMENSION OF ANY BUILDING SHALL NOT EXCEED ONE HUNDRED SIXTY (160) FEET. BUILDINGS ON THE SAME SITE MAY BE CONNECTED BY COVERED PEDESTRIAN WALKWAYS. PROJECT NOTE: LONGEST BUILDING DIMENSION IS 90'-5". SEE SHEETS A100 TO A102.	
	D. HORIZONTAL BUILDING MODULATION. THE STEPPING BACK OR PROJECTING FORWARD OF PORTIONS OF A BUILDING FACADE WITHIN SPECIFIED INTERVALS OF A BUILDING WIDTH AND DEPTH LESSENS THE APPARENT BULK OF THE EXTERIOR WALL OF THE STRUCTURE. MULTIFAMILY RESIDENTIAL BUILDINGS SHALL MEET THE FOLLOWING DESIGN STANDARDS:	
	I. THE MAXIMUM WIDTH, AS MEASURED HORIZONTALLY ALONG THE BUILDING EXTERIOR, WITHOUT BUILDING MODULATION SHALL BE FIFTY (50) FEET.	
	II. THE FACADE MODULATION SHALL HAVE A MINIMUM DEPTH OF FIVE (5) FEET AND A MINIMUM WIDTH OF TEN (10) FEET. PROJECT NOTE: THE LONGEST BUILDING FACADE BEFORE ARTICULATION OCCURS IS 35'. ARTICULATION RANGES FROM 1' IN DEPTH TO 4'-6" IN DEPTH. SEE SHEETS A100 TO A102.	
	V. ENHANCE BUILDING ARTICULATION WITH A CHANGE IN MATERIALS OR COLORS WITH EACH CHANGE IN BUILDING PLANE. EMPHASIZE TRIM DETAILS WITH COMPATIBLE CONTRASTING COLORS. PROJECT NOTE: EVERY FACADE ARTICULATION OCCURS WITH A CHANGE IN MATERIAL AND COLOR. SEE SHEETS A200 AND A201.	
	E. MODULATED ROOF LINE. THE ROOFLINES SHALL BE MODULATED ACCORDING TO THE FOLLOWING STANDARDS:	
	I. PROVIDE GABLE, HIPPED OR SHED ROOFS WITH A SLOPE OF AT LEAST THREE (3) FEET VERTICAL TO TWELVE (12) FEET HORIZONTAL. CHANGE THE ROOFLINE BY ALTERNATING DORMERS, STEPPED ROOFS, GABLES, OR OTHER ROOF ELEMENTS TO REINFORCE THE MODULATION OR ARTICULATION INTERVAL. PROJECT NOTE: ROOF FORMS INCLUDED IN THE BUILDING DESIGN INCLUDE GABLES, SHEDS, AND FLAT ROOF. ALL PITCHED ROOF CONDITIONS HAVE A MINIMUM SLOPE OF 3.5/12. FLAT ROOF HAS BEEN IMPLEMENTED AS VISUAL BREAK BETWEEN DIFFERENT ROOF FORMS. SEE SHEETS A103, A200 AND A201..	
	F. RESIDENTIAL DESIGN FEATURES, INCLUDING BUT NOT LIMITED TO ENTRY PORCHES, PROJECTING WINDOW BAYS, BALCONIES OR DECKS, INDIVIDUAL WINDOWS INSTEAD OF STRIP WINDOWS, OFFSETS AND CASCADING OR STEPPED ROOF FORMS, SHALL BE INCORPORATED INTO ALL BUILDINGS. WINDOW OPENINGS SHALL HAVE VISIBLE TRIM MATERIAL OR PAINTED DETAILING THAT RESEMBLES TRIM. USE DESIGN ELEMENTS IN THE FOLLOWING MANNER TO ACCENT BUILDING ARTICULATION, PROVIDING THE INTERVAL DOES NOT EXCEED SIXTY (60) FEET:	
	I. REPEAT DISTINCTIVE WINDOW PATTERNS AT INTERVALS LESS THAN OR EQUAL TO THE ARTICULATION INTERVAL.	
	II. PROVIDE A PORCH, PATIO, DECK, OR COVERED ENTRY FOR EACH INTERVAL.	
	III. PROVIDE A BALCONY OR BAY WINDOW FOR EACH INTERVAL.	
	IV. PROVIDE A LIGHTING FIXTURE, TRELLIS, TREE OR OTHER LANDSCAPE FEATURE WITHIN EACH INTERVAL.	
	G. DWELLING UNITS ON THE GROUND FLOOR LEVEL SHALL HAVE PRIVATE OUTDOOR SPACES ADJACENT TO THEM TO ALLOW THOSE EXTERIOR PORTIONS OF THE SITE TO BE CONTROLLED BY INDIVIDUAL HOUSEHOLDS. PROJECT NOTE: ALL UNITS ON THE GROUND LEVEL HAVE THEIR OWN COVERED PATIOS. SEE SHEET A100.	
	H. BUILDINGS IN THE DEVELOPMENT SHOULD BE ORIENTED TO PROVIDE FOR PRIVACY OF RESIDENTS.	
	I. DWELLING UNITS SHOULD BE CONSTRUCTED SO THAT WINDOWS ARE NOT LOCATED AT GROUND LEVEL, BELOW GRADE IN WINDOW WELLS OR BELOW ADJACENT SIDEWALKS, STAIRWAYS, LANDSCAPE AREAS OR PARKING AREAS. PROJECT NOTE: NO WINDOWS ARE LOCATED AT GROUND LEVEL OR BELOW GRADE. SEE SHEETS A200 AND A201.	
	J. LIGHTING FIXTURES SHOULD NOT EXCEED FIFTEEN (15) FEET IN HEIGHT AND SHALL INCLUDE LUMINAIRE SHIELDS. PROJECT NOTE: SEE ELECTRICAL DRAWINGS FOR SITE LIGHTING SPECS.	
	K. PROVIDE SUBSTANTIAL LANDSCAPING AND/OR PEDESTRIAN-ORIENTED OPEN SPACES NEAR BUILDING ENTRANCES AND ALONG THE BUILDING FACADE. PRINCIPAL ENTRIES TO BUILDINGS SHALL BE HIGHLIGHTED WITH PLAZA OR GARDEN AREAS CONTAINING PLANTING, LIGHTING, SEATING, TRELLISES AND OTHER FEATURES. SUCH AREAS SHOULD BE LOCATED AND DESIGNED SO WINDOWS OVERLOOK THEM. PROJECT NOTE: THE 3 BUILDINGS ON THE SITE ARE SEPARATED BY A SHARED COURTYARD THAT CONTAINS PLANTING, LIGHTING, PLAY AREAS, & COMMUNITY PLANTING BEDS. SEE AS100, LANDSCAPE DRAWINGS, AND ELECTRICAL DRAWINGS.	
	M. THE SITE PLAN SHOULD ACCOMMODATE VEHICULAR ACCESS AND PARKING IN A MANNER WHICH IS CONVENIENT, YET DOES NOT ALLOW THE AUTOMOBILE TO DOMINATE THE SITE. PROJECT NOTE: PARKING HAS BEEN DIVIDED INTO 2 SEPARATE LOTS. A SMALLER LOT LOCATED ON THE NORTH END OF THE SITE SERVING 1 BUILDING WITH A LARGER LOT AT THE SOUTH END OF THE SITE SERVING 2 BUILDINGS. THE SEPARATION OF THE PARKING LEAVES THE MAJORITY OF THE SITE BETWEEN THEM THAT WHERE BUILDINGS, COURTYARDS, LANDSCAPING, AND ACCESSIBLE ROUTES ARE ALL PROVIDED. SEE SHEET AS100.	
	O. PROVIDE AN OPEN SPACE NETWORK THAT IS ACCESSIBLE TO ALL UNITS AND THAT WILL ACCOMMODATE A WIDE VARIETY OF ACTIVITIES, PUBLIC AND PRIVATE, IN THE FOLLOWING MANNER:	
	I. PROVIDE AT LEAST ONE HUNDRED (100) SQUARE FEET PER UNIT OF COMMON OPEN SPACE IN ADDITION TO INDIVIDUAL BALCONIES OR PATIOS AND THAT AREA REQUIRED BY LANDSCAPING, RECREATION, BUILDING SETBACKS, CRITICAL AREA BUFFERS AND OTHER CODE REQUIREMENTS. PROJECT NOTE: 42 x 100 SF = 4,200 SQUARE FEET OF REQUIRED OPEN SPACE. 6,300 SQUARE FEET OF OPEN SPACE HAS BEEN PROVIDED. SEE SHEET AS100.	
	II. COMMON OPEN SPACE SHALL BE AN OPEN AIR AREA INTENDED FOR USE BY ALL RESIDENTS, GUESTS, EMPLOYEES OR PATRONS OF A SITE AND MAY INCLUDE LAWNS, GARDENS, SQUARES, PLAZAS, COURTYARDS, TERRACES, BARBECUE AND PICNIC AREAS, GAMES COURT OR MULTIUSE RECREATIONAL AREAS, AND OTHER TYPES OF BUILT SPACE. COMMON OPEN SPACE SHALL MEET THE FOLLOWING STANDARDS:	
	(A) LINEAR DIMENSIONS OF NO LESS THAN TWENTY (20) FEET.	
	(B) NO MORE THAN THIRTY (30) PERCENT OF THE AREA COVERED BY A STRUCTURE.	
	(C) PROVIDE AMPLE EXPOSURE TO NATURAL SUNLIGHT AND FRESH AIR.	
	(D) PROVIDE DIRECT PEDESTRIAN CONNECTION TO OTHER PARTS OF THE SITE.	
	(E) MAY INCLUDE MULTI-USE STORM WATER DETENTION FACILITIES, IF THE COMMUNITY DEVELOPMENT DIRECTOR DETERMINES THAT THE FACILITIES ARE DESIGNED TO FUNCTION AS COMMON OPEN SPACE BY PROVIDING AN ENHANCED NATURE OR VISUALLY AESTHETIC DESIGN. PROJECT NOTE: COMMON OPEN SPACE DESIGN ELEMENTS INCLUDE EXTERIOR SEATING, COMMUNITY GARDEN BEDS, ALL OPEN TO THE SKY WITH A LANDSCAPE DESIGN THAT PROMOTES A SENSE OF COMMUNITY. SEE AS100 AND LANDSCAPE DRAWINGS.	
	III. ENSURE THAT THE OPEN SPACE NETWORK PROVIDES PRIVACY FOR THE RESIDENTS WHILE ALLOWING FOR SECURITY AND SURVEILLANCE FROM RESIDENTIAL UNITS. COMMON RECREATIONAL SPACES SHALL BE LOCATED AND ARRANGED TO ALLOW WINDOWS TO OVERLOOK THEM.	
	IV. PROVIDE ADEQUATE LIGHTING IN THE OPEN SPACE NETWORK, BUT PLACE AND SHIELD LIGHTING SO THAT IT DOES NOT GLARE INTO HOUSING UNITS. EXTERIOR LIGHTING SHALL COMPLY WITH LMC 18A.60.095.	
	V. PROVIDE LANDSCAPING THAT DEFINES THE OPEN SPACE AND PROVIDES SHADE AND WIND PROTECTION WHERE NEEDED BUT PERMITS SURVEILLANCE FROM UNITS AND ROADS.	
	VI. DESIGN THE RESIDENTIAL OPEN SPACE NETWORK WITH SPECIFIC USES IN MIND. IN EACH MULTIFAMILY RESIDENTIAL OR COMBINED USES BUILDINGS, PRIVATE OPEN SPACE SHALL BE PROVIDED IN ADDITION TO COMMON OPEN SPACE AREAS.	
	(A) PRIVATE OPEN SPACE SHALL BE A PARTIALLY OR FULLY SCREENED OR ENCLOSED OPEN-AIR AREA THAT IS STRICTLY INTENDED FOR USE BY THE RESIDENTS OF THE DWELLING UNIT.	
	(B) PRIVATE OPEN SPACE MAY INCLUDE YARDS, GARDENS, PATIOS, COURTYARDS, PORCHES, BALCONIES, TERRACES, ROOFTOP GARDENS, DECKS OR VERANDAHs. PRIVATE OPEN SPACE SHALL NOT HAVE A DIMENSION LESS THAN SIX (6) FEET IN LENGTH. PROJECT NOTE: ALL UNITS HAVE THEIR OWN PRIVATE RESIDENTIAL OPEN SPACE THAT IS PARTIALLY SCREENED. ALL SPACES HAVE A MINIMUM LENGTH OF 7'-0". SEE SHEETS A100, A101 AND A102.	

DRAWINGS ARE NOT TO SCALE UNLESS PRINTED ON 24"x36"

LAND USE CODE ANALYSIS

CONTINUED					
18A.70.040(C) SPECIFIC USES DESIGN STANDARDS (CONTINUED)	P. PROVIDE ONE (1) OR MORE FURNISHED PLAY AREAS FOR CHILDREN, PROVIDE A MINIMUM OF TWO HUNDRED (200) SQUARE FEET OR FIFTY (50) SQUARE FEET PER UNIT, WHICHEVER IS GREATER. GAME COURTS, BIKE TRACKS AND OTHER RECREATIONAL FACILITIES MAY BE INCLUDED AS PLAY AREAS; PROVIDED, THAT AT LEAST ONE (1) PLAY AREA FOR CHILDREN AGES SEVEN (7) AND UNDER HAS BEEN PROVIDED. "ADULT ONLY" HOUSING THAT PROHIBITS CHILDREN AS RESIDENTS IS EXEMPT FROM PROVIDING A CHILDREN'S PLAY AREA BUT SHALL PROVIDE EQUAL AREA FOR RECREATIONAL USES APPROPRIATE TO THE AGE OF RESIDENTS. PROJECT NOTE: 50 x 42 UNITS = 2,100 SF REQUIRED REC SPACE. 3,151 SF OF RECREATIONAL SPACE HAS BEEN PROVIDED. SEE SHEET AS100 .				
	Q. SAFE PEDESTRIAN ROUTES AND BARRIER FREE ACCESS MUST BE PROVIDED FROM THE BUILDING TO TRASH ENCLOSURES AND ADJACENT SIDEWALKS.				
	18A.80.030(F) ZONING DISTRICT PARKING REQUIREMENTS	USE	UNIT MEASURE	85TH %-TILE	REQUIRED BICYCLE PARKING SPACES
	55 AND OVER RESIDENTIAL (PROPOSED PER PARKING ASSESSMENT DATED 11/24/2020)	PER DWELLING UNIT	67	1 PER 10 AUTO STALLS, 2 MINIMUM PER BUILDING	PARKING CALCULATION: 1 STALLS x 63 UNITS = 63 PARKING STALLS PROVIDED. THE PROJECT MEETS THE AVERAGE PARKING DEMAND BASED ON ITE DATA. SEE SUBMITTED PARKING ASSESSMENT DATED 11/24/2020. 6.3 OR 6 BICYCLE STALLS REQUIRED
18A.80.060 PARKING INCENTIVES	C. WHEN AFFORDABLE HOUSING IS CONSTRUCTED PURSUANT TO CHAPTER 18A.90 LMC, HOUSING INCENTIVES PROGRAM, THE PARKING SPACE REQUIREMENTS SHALL BE CALCULATED EMPLOYING ANY AVAILABLE MODIFICATIONS BASED UPON LMC 18A.90.060. G. ELECTRIC VEHICLE CHARGING PARKING PROVISIONS. FOR EVERY ELECTRIC VEHICLE CHARGING STATION PROVIDED, THE REQUIRED NUMBER OF PARKING SPACES MAY BE REDUCED BY AN EQUIVALENT NUMBER, PROVIDED THE TOTAL REDUCTION DOES NOT EXCEED FIVE (5) PERCENT OF THE TOTAL REQUIRED PARKING SPACES. FOR EXAMPLE, IF FORTY (40) PARKING SPACES ARE REQUIRED AND TWO (2) ELECTRIC VEHICLE CHARGING STATIONS ARE PROVIDED, THE TOTAL REQUIRED PARKING MAY BE REDUCED TO THIRTY-EIGHT (38) SPACES, YIELDING THIRTY-SIX (36) "REGULAR" PARKING SPACES AND TWO (2) ELECTRIC VEHICLE CHARGING PARKING SPACES. NOTE THAT IN THIS EXAMPLE THE TOTAL REDUCTION MAY NOT BE IN EXCESS OF TWO (2) SPACES (40 x 5% = 2), SO IF THREE (3) ELECTRIC VEHICLE CHARGING STATIONS WERE PROVIDED INSTEAD, THE TOTAL REDUCTION IN REQUIRED PARKING WOULD STILL BE TWO (2) SPACES, YIELDING THIRTY-FIVE (35) "REGULAR" PARKING SPACES AND THREE (3) ELECTRIC VEHICLE CHARGING PARKING SPACES. PROJECT NOTE: 63 STALLS x 5% = 3.15 OR 3 STALLS. -3 ELECTRIC VEHICLE CHARGING STATIONS TO BE PROVIDED				
18A.90.050 INCLUSIONARY DENSITY BONUSES	A. RATE AND CALCULATION. IN RETURN FOR THE INCLUSION OF A NUMBER OF "QUALIFIED," AS DEFINED HEREIN, ON-SITE UNITS DEDICATED TO SERVING AND RESERVED FOR OCCUPANCY BY VERY-LOW- AND/OR EXTREMELY-LOW-INCOME, AS DEFINED HEREIN, PERSONS, FAMILIES, OR GROUPS, ONE (1) ADDITIONAL, ON-SITE MARKET-RATE UNIT IS PERMITTED AS A BONUS FOR EACH QUALIFIED VERY-LOW-INCOME UNIT PROVIDED, AND 1.5 ADDITIONAL, ON-SITE MARKET RATE UNITS ARE PERMITTED AS A BONUS FOR EACH QUALIFIED EXTREMELY-LOW-INCOME UNIT PROVIDED, UP TO A MAXIMUM PERCENTAGE ABOVE THE MAXIMUM DENSITY PERMITTED IN THE UNDERLYING ZONING DISTRICT AS SHOWN BELOW. ZONING DISTRICT MF2: 20% MAXIMUM DENSITY INCREASE				
18A.90.060 DEVELOPMENT STANDARD MODIFICATIONS	A. LOT COVERAGE. WHERE IT DOES NOT CONFLICT WITH SURFACE WATER MANAGEMENT REQUIREMENTS, THE MAXIMUM PERCENTAGE OF LOT COVERAGE MAY BE INCREASED BY UP TO FIVE (5) PERCENT OF THE TOTAL SQUARE FOOTAGE OVER THE MAXIMUM LOT COVERAGE PERMITTED BY THE UNDERLYING ZONING DISTRICT. B. PARKING REQUIREMENTS. FOR MULTIFAMILY DEVELOPMENTS CONTAINING QUALIFIED HOUSING, THE PERCENTAGE OF COMPACT PARKING STALLS MAY BE INCREASED UP TO FIFTY (50) PERCENT OF THE TOTAL REQUIRED PARKING. IN ADDITION, FOR MULTIFAMILY DEVELOPMENTS CONTAINING QUALIFIED HOUSING DEDICATED TO EXTREMELY-LOW-INCOME, AS DEFINED HEREIN, PERSONS, FAMILIES, OR GROUPS, THE NUMBER OF REQUIRED PARKING STALLS SERVING SUCH UNITS SHALL BE REDUCED BY FIFTY (50) PERCENT. PROJECT NOTE: THERE ARE NO LOW INCOME UNITS IN THIS SUBMITTAL. C. IN CIRCUMSTANCES WHERE HOUSING SERVING QUALIFIED POPULATIONS IS LOCATED WITHIN ONE QUARTER (1/4) MILE OF TRANSIT ROUTES AND CAN BE SHOWN TO GENERATE SIGNIFICANTLY LOWER-THAN-AVERAGE PARKING DEMAND, PARKING REQUIREMENTS MAY BE FURTHER REDUCED AT THE DIRECTOR'S DISCRETION. THE APPLICANT SHALL BE RESPONSIBLE FOR PREPARING ANY ADDITIONAL STUDIES OR EVALUATION REQUIRED TO PROVIDE EVIDENCE OF DEMAND. PROJECT NOTE: TRANSIT STOPS LOCATED AT LAKEWOOD DR W. AND 76TH ST W ARE APPROXIMATELY 450 FEET AWAY OR LESS THAN 1/4 MILE(1,320 FEET).				



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MEADOW PARK GARDENS
BUILDING 2
LAKEWOOD DR W & 77TH ST W,
LAKEWOOD, WA 98499

REVISIONS DESCRIPTION	DATE
	MM/DD/YYYY

PROJECT NUMBER: 2046
PM: JM

DESIGN REVIEW RESUB 04/11/2022

NOT FOR
CONSTRUCTION

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LAND USE SUMMARY

DR 001

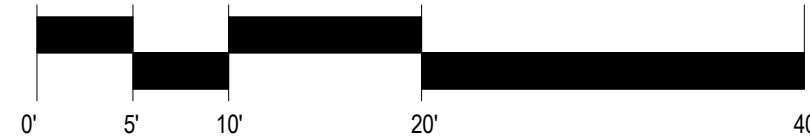
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DR 002



Keynote Legend

AS04	TRASH / RECYCLE ENCLOSURE
AS05	CONCRETE SIDEWALK WORK SHALL INCLUDE CONTROL JOINTS AT NO GREATER THAN 5'-0" O.C.
AS08	9'-0" x 18'-0" STANDARD PARKING STALL, TYP.
AS09	8'-0" x 18'-0" COMPACT PARKING STALL, TYP.
AS10	GRASSCRETE PAVING, SEE LANDSCAPE DRAWINGS

OPEN SPACE CALCULATION

COMMON OPEN SPACE

42 DWELLING UNITS x 100 SF = 4,200 SF REQUIRED OPEN SPACE

ADDITIONAL RECREATIONAL SPACE

42 DWELLING UNITS x 50 SF = 2,100 SF REQUIRED



TOTAL OPEN SPACE REQUIRED

4,200 SF COMMON OPEN SPACE
+ 2,100 SF RECREATIONAL SPACE
6,300 SF TOTAL OPEN SPACE

TOTAL OPEN SPACE PROVIDED

6,300SF COMMON OPEN SPACE
+ 3,151 SF RECREATIONAL SPACE
9,451 SF TOTAL OPEN SPACE

HATCH PATTERN



PARKING CALCULATIONS

REQUIRED STALLS

63 DWELLING UNITS X 1 STALL PER UNIT = 63 STALLS REQUIRED

ELECTRIC VEHICLE (EV) CREDIT (UP TO 5% OF MAX): 63 x .05 = 3.15 OR 3
63 - 3 = 60 STALLS REQUIRED

PROVIDED STALLS

24 COMPACTS (38% [50% MAX])
03 ADA
+ 36 STANDARD
63 TOTAL STALLS PROVIDED (5 EV STALLS INCLUDED)


0'

5'

10'

20'

40'





TO: Planning Commission
FROM: Courtney Brunell, Current Planning Manager
DATE: May 4, 2022
SUBJECT: Proposed Comprehensive Plan Amendment:
2022-07 Parking requirements in LMC Chapters 18A.80 (Citywide) and in 18C.600 (Lakewood Station District Subarea Plan)

PURPOSE

Per Resolution 2021-14, the Lakewood City Council set the docket list for the 2022 Comprehensive Plan amendment (22CPA) cycle to include seven potential amendments. Due to the variety and complexity of this cycle's amendments, the Planning Commission has been reviewing them in part over time prior to conducting a public hearing and considering action on the entire docket. The Commission is currently scheduled to hold a public hearing on May 18 and take action on the entire amendment docket on June 1.

This memorandum includes one of the potential amendments:

- **2022-07** Parking requirements in LMC Chapters 18A.80 (Citywide) and in 18C.600 (Lakewood Station District Subarea Plan)

BACKGROUND

On March 2, 2022 the Planning Commission was introduced to three potential amendments involving the multifamily parking standards. During the meeting the commission was introduced to three recent scenario's where the existing code was questioned by members of the City Council or Planning Commission, prompting potential changes to the existing parking standards. The general topics and supplemental discussion is outlined below:

1: Should the Planning Commission and Council consider a code amendment to require a set aside of uncovered or undesignated guest parking spaces for multifamily development?

Discussion: On March 2, 2022, there was a general consensus to require some guest parking for multi family

2: Should the City require pedestrian access between offsite parking locations?

Discussion: On March 2, 2022 there was general consensus to not move forward with this requirement.

3: The City invited the Planning Commission and City Council to evaluate if our code still makes sense for multifamily development regardless of unit size.

Discussion: On March 2, 2022 there was general consensus to propose amendments to the parking code based on the number of bedrooms for any given unit.

4: Any other desired amendments?

Discussion: The planning Commission confirmed that they liked the existing standards for single family and mixed use development. No additional proposed changes.

NEXT STEPS

City staff has proposed amendments to the code related to multifamily use types. The amendments include reducing the number of parking spaces for multifamily structures based on the number of bedrooms in the unit, allowing for 1 parking space unit for a studio apartment. Additionally, the code will now require that at least 10% of the parking spaces must be unreserved for guest parking.

1. Amend 18A.80.030 Zoning district parking requirements. (CITY WIDE)

RESIDENTIAL				
Accessory dwelling unit	Per dwelling unit	1	N/A	None
Single-family	Per dwelling unit	2	N/A	None
Duplexes	Per dwelling unit	2	N/A	None
Multifamily structures	Per dwelling unit	<u>Studio- 1</u> <u>1 bedroom- 1.25</u> <u>2+ bedroom- 1.5</u> <u>(at least 10% of the total</u> <u>parking spaces must be</u> <u>set aside for unreserved</u> <u>guest parking)</u> <u>4.5</u>	N/A	1 per 10 auto stalls. 2 minimum per building

2. 18C.600.610 Parking. (LAKEWOOD STATION DISTRICT)

Land Use	Vehicular Parking Requirement	Bicycle Parking Requirement
Residential	Single-family: 2 per dwelling unit Accessory dwelling: 1 per dwelling unit; provided, that no additional parking is required when located within one-quarter mile of the Sounder Station. (RCW 36.70A.698) Senior citizen apartments: 1 per 3 dwelling units* Multifamily housing: <u>Studio- 1</u>	Meet rates and standards of: Chapter 18A.80 LMC

Land Use	Vehicular Parking Requirement	Bicycle Parking Requirement
	<p><u>1+ bedroom- 1.25</u> <u>(at least 10% of the total parking spaces must be set aside for unreserved guest parking)</u>1.25 spaces per dwelling unit*</p> <p><i>*See process in subsection (B) of this section to prepare parking study to reduce further near station.</i></p>	

ATTACHMENTS

1. Parking Standards Power point

LMC Parking Standards CPA 2022-07

Planning Commission

May 4, 2022

Discussion from March 2, 2022

Proposed amendment to set aside uncovered or undesignated guest parking spaces for multifamily development

Recommended

Should the City require pedestrian access between offsite parking location?

Not recommended

Proposed amendment to adjust the parking ratio based on unit size.

*University Place Model
Recommended*

Any other desired amendments?

None Recommended

Multi Family Parking Standards

City	Spaces
City of Lakewood Standard	1.5 per dwelling unit
City of Lakewood Station district	1.25 per dwelling unit
Puyallup	1.5 per dwelling unit
DuPont	2 per dwelling unit
Lacey	1.5 per dwelling unit
Steilacoom	2 per dwelling unit
Federal Way	1.5=studio/1 bd or 2 per dwelling unit > 1bd
University Place	1- studio, 1.25=- 2bd, 1.5 3+bd

Recommendation 18A.80.030

1. Amend 18A.80.030 Zoning district parking requirements. (CITY WIDE)

RESIDENTIAL				
Accessory dwelling unit	Per dwelling unit	1	N/A	None
Single-family	Per dwelling unit	2	N/A	None
Duplexes	Per dwelling unit	2	N/A	None
Multifamily structures	Per dwelling unit	<u>Studio- 1</u> <u>1 bedroom- 1.25</u> <u>2+ bedroom- 1.5</u> <u>(at least 10% of the total</u> <u>parking spaces must be</u> <u>set aside for unreserved</u> <u>guest parking)1.5</u>	N/A	1 per 10 auto stalls. 2 minimum per building

Recommendation 18C.600.610

18C.600.610 Parking. (LAKEWOOD STATION DISTRICT)

Land Use	Vehicular Parking Requirement	Bicycle Parking Requirement
Residential	<p>Single-family: 2 per dwelling unit Accessory dwelling: 1 per dwelling unit; provided, that no additional parking is required when located within one-quarter mile of the Sounder Station. (RCW 36.70A.698)</p> <p>Senior citizen apartments: 1 per 3 dwelling units*</p> <p>Multifamily housing:</p> <p><u>Studio- 1</u></p> <p><u>1+ bedroom- 1.25</u></p> <p><u>(at least 10% of the total parking spaces must be set aside for unreserved guest parking)1.25 spaces per dwelling unit*</u></p> <p><i>*See process in subsection (B) of this section to prepare parking study to reduce further near station.</i></p>	<p>Meet rates and standards of: Chapter 18A.80 LMC</p>



TO: Planning Commission

FROM: Tiffany Speir, Long Range & Strategic Planning Manager

DATE: May 4, 2022

SUBJECT: Proposed Comprehensive Plan Amendments:

2022-02 Update of Tillicum Neighborhood Plan and Tillicum Center of Local Importance (CoLI)

2022-04 Review of Zoning, Policies and Code related to Adult Family Homes (AFHs) located in Air Corridor 1 (AC1) and AC2 zones

2022-07 Parking requirements in LMC Chapters 18A.80 and in 18C.600 (Lakewood Station District Subarea Plan)

ATTACHMENTS: Comprehensive Plan Excerpts re Tillicum (Attachment A); Tables of Tillicum Implementation Actions and Long Term Strategies (Attachment B); 2011 Tillicum Neighborhood Plan and SEPA Checklist (Attachment C); 2009 Landmarks and Historic Properties in Tillicum (Attachment D); September 13, 2021 Adult Family Home Council Public Comment Letter

BACKGROUND

Per Resolution 2021-14, the Lakewood City Council set the docket list for the 2022 Comprehensive Plan amendment (22CPA) cycle to include seven potential amendments. Due to the variety and complexity of this cycle's amendments, the Planning Commission has been reviewing them in part over time prior to conducting a public hearing and considering action on the entire docket.

This memorandum includes initial presentations of three of the potential amendments:

2022-02 Update of Tillicum Neighborhood Plan and Tillicum Center of Local Importance (CoLI) (continued from March 2)

2022-04 Review of Zoning, Policies and Code related to Adult Family Homes (AFHs) located in the Air Corridor 1 (AC1) and AC2 zones

2022-07 Parking requirements in LMC Chapters 18A.80 and in 18C.600 (Lakewood Station District Subarea Plan)

The Commission is currently scheduled to hold a public hearing on the entire docket package on May 18 and take action on a recommendation to the City Council on June 1.

DISCUSSION

2022-02 Update of 2011 Tillicum Neighborhood Plan (TNP) and Tillicum Center of Local Importance (CoLI)

High level introductions to the 2011 Tillicum Neighborhood Plan (TNP) were provided to the Planning Commission on January 19 and March 2, 2022. Current Comprehensive Plan Text and Policies related to the TNP and the Tillicum Center of Local Importance (CoLI) are included in **Attachment A**. The existing TNP is included in **Attachment C**.

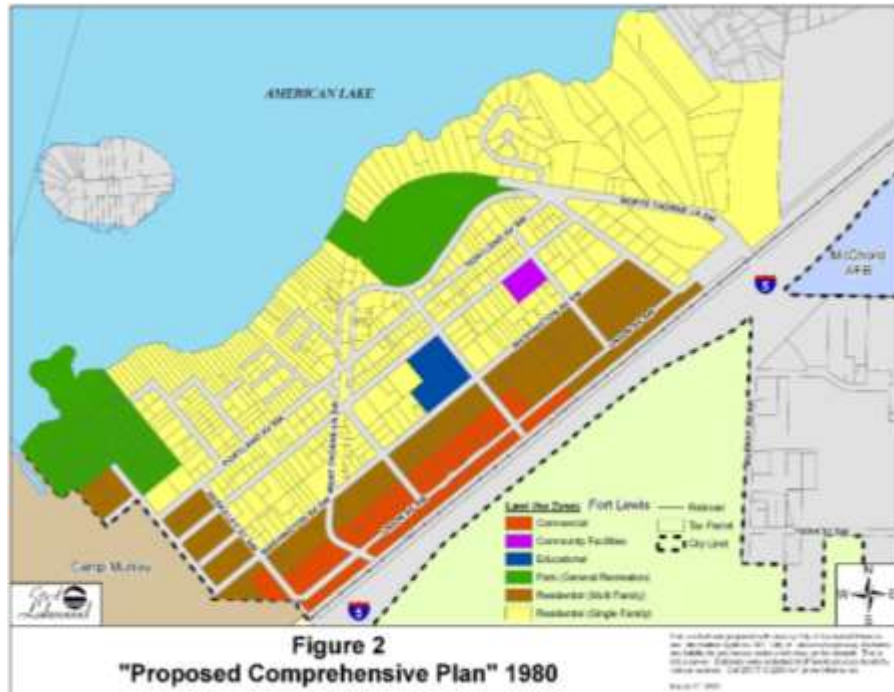
A. History and Implementation of Tillicum Neighborhood Plan

Per City Council Resolution 2011-09, the Tillicum Neighborhood Plan was adopted as a City Subarea Plan under RCW 36.70A.080(2). The Tillicum area is subject to specific treatment in the Comprehensive Plan in Section 3.10, Goal LU-52, LU-53, and Policies LU-53.1 through LU-53.4.) Comprehensive Plan LU 52.5 states to “Implement and as necessary update the Tillicum Community Plan.”

The maps below displays the TNP subarea boundaries and parcel layout in 2011:



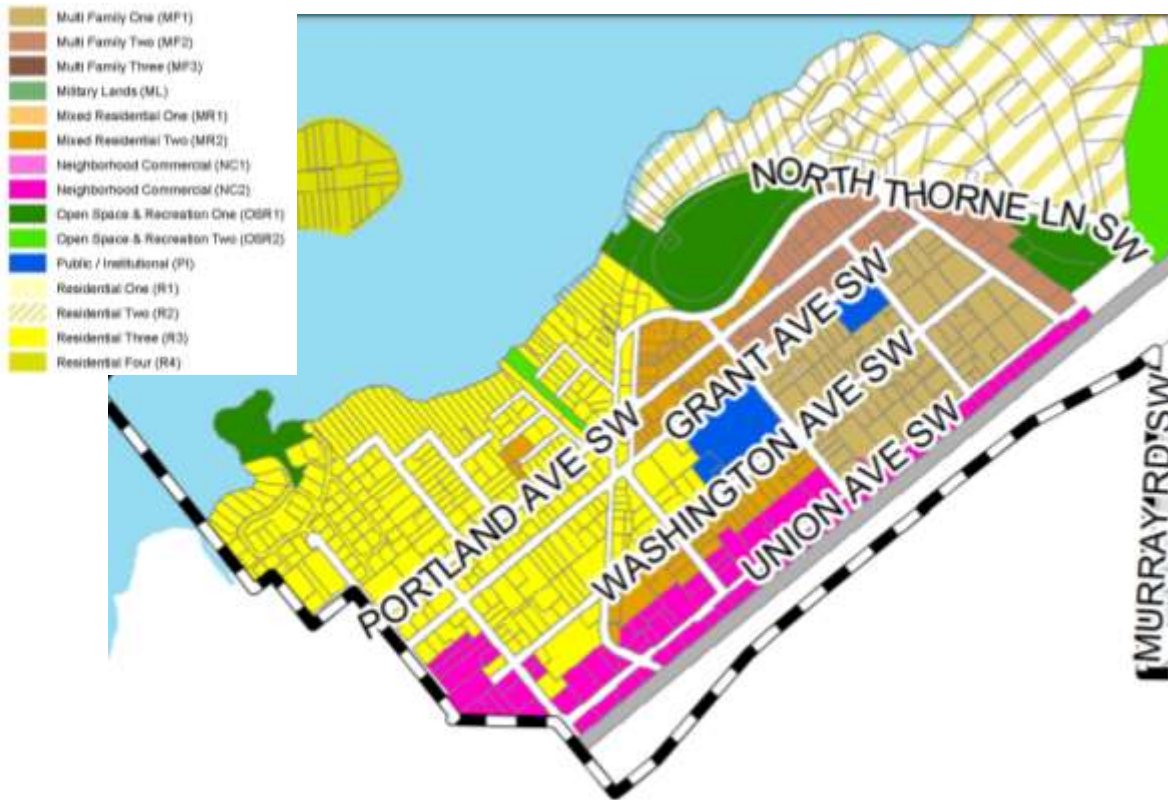
In 1980 (pre-GMA and pre-Lakewood incorporation), the anticipated zoning for the subarea was as below:



The following map depicts the 2011 subarea plan zoning. Differences include the OSR1 zoning in the West corner of the subarea, the extension of NC2 zoning along the length of Union Ave. SW, inclusion of MR zoning, and changes to where MF zoning was located:



As of 2021, zoning in Tillicum had changed to that shown below. MF zoning was introduced outside of the pre-existing section for the Habitat for Humanity “Boat St. project.” NC2 zoning had expanded at the SW corner of Tillicum in recognition of the completed I-5 expansion and new interchanges in the area coupled with implementation of Comprehensive Plan policy LU-51.1: “Provide for commercial and service uses for the daily needs of the residents within the neighborhoods.”



Tillicum Sewers

As part of its concerted effort to improve the subarea, Lakewood has worked to increase sewer access in Tillicum since 2009. The sewer work originally planned for per the TNP was the construction of the sewer interceptors and 3 regional pump stations; that work was completed in 2012 by the City of Lakewood. Since then, the City has built 4 additional sewer projects, 3 of which were partly funded by the County’s Sewer Connection Fund.

There are still some portions of Tillicum that do not have sewers, but currently, the County does not have any sewer projects identified in its Sewer Improvement Program for this area. The City is partnering with Habitat for Humanity on sewers for their Boat Street project by using some of the City’s ARPA funds.

The map below shows subarea sewer service lines in green as of spring 2022.



2022 Sewer Lines in Tillicum: Lakewood GIS

2011 TNP Implementation Strategies

68 specific implementation strategies were adopted as part of the 2011 Tillicum Neighborhood Plan (TNP.) The near-term (5 years), ongoing (5-20 years), and long-term (20+ years) actions included within tables were tied to the Plan's goals and tasks and set priorities and time frames. They were intended to provide guidance to decision-makers as they implemented the recommended Actions.

38 of the 68 Implementation Strategies in the Tillicum Neighborhood Plan are done or ongoing. The remaining 30 are not done for a variety of reasons (e.g., lack of funding, lack of other resources, changed circumstances, etc.) This will be recognized in the addendum to be adopted to the TNP as part of the 2022 Comprehensive Plan amendment cycle.

Included below are summary tables that identify the status of the 68 the strategies as of Spring 2022. The status of the TNP Long Term Strategies that were not assigned priority rankings or timeframes also follows. The full item-by-item tables by subject area are included in **Attachment B**.

TABLE 16 ACRONYMS USED IN IMPLEMENTATION STRATEGIES			
CA	City Attorney	GS	City General Svcs. Dept.
CC	City Council	LPD	City Police Dept.
CD	Community Development Dept.	LHAB	City Landmarks & Heritage Advisory Board
CLT	Community Leadership Team	LWD	Lakewood Water District
CM	City Manager	MD	Wash. State Military Department (Camp Murray)
COMMUNITY	Tillicum residents, property owners, businesses & social svcs. providers	PAB	City Planning Advisory Board (now the Planning Commission)
CPSD	Clover Park School District	PC	Pierce College

CPTC	Clover Park Technical College	PT	Pierce Transit
CTAC	Citizens' Transportation Advisory Committee (City) – now blended with Planning Commission	PSE	Puget Sound Energy
ED	City Economic Development Div.	PW	City Public Works Dept.
FIN	City Finance Dept.	REC	City Parks & Rec. Department
FIRE	Lakewood Fire District	USPS	United States Postal Service
FL (now JBLM)	Fort Lewis (now Joint Base Lewis McChord)	WSDOT	WA State Dept. of Transportation

TNP ACTION ITEMS DONE (12) OR ONGOING (26): Total = 38					
No.	WHAT	WHO	WHEN	Priority	2022 STATUS: (DONE, ONGOING)
B-1	Install major sewer trunk line & side sewers in selected parts in Tillicum.	PW	Near-term	High	DONE
B-3	In conjunction with the sewer project, coordinate installation of new gas & water mains with utility companies.	PW, LWD, & PSE	Near-term	High	DONE The water main improvements in TNP Figure 22 were completed in 2010. LWD has coordinated with the County on several water main replacements in the Tillicum area as sewer replacement projects have occurred and will continue to do so as projects develop.
B-8	Make minor improvements to Harry Todd Park: <ul style="list-style-type: none"> ▪ Install trash enclosures with gates ▪ Install new playground border (wood chips) ▪ Install paved walking path around the park ▪ Resurface tennis/skate park area ▪ Remove perimeter fence at the park once a Park Watch team has been established & is in operation 	REC	Near-term	Medium	DONE
B-10	Make major improvements to Harry Todd Park: <ul style="list-style-type: none"> ▪ Repair existing docks ▪ Install new docks ▪ Install ADA improvements at Harry Todd Park ▪ Redesign Harry Todd park with realignment of Maple Street SW 	REC & CD	Long-term	Low	DONE
C-5	Use the community service & code enforcement officer positions to proactively ensure all Tillicum businesses & rental housing are properly licensed.	CD & LPD	Near-term	High	DONE
D-1	Prepare a traffic congestion report for the I-5 Corridor from Highway 512 to Mounts Road.	CD	Near-term	High	DONE
D-3	Initiate formal discussions with other agencies regarding improvements to the I-5, Union Avenue SW, & Berkeley Street SW road intersections.	CM, CD, PW, MD, FL, WSDOT & COMMUNITY	Near-term	High	DONE
D-4	Establish street design guidelines for Union Avenue SW	CC, CD, PW, COMMUNITY	Near-term	High	DONE BUT MAY NEED REVISION

D-12	Monitor the Point Defiance Rail project	CD & PW	Near- & long-term	Low	DONE
E-5	Update the City's current subdivision regulations, including the establishment of new regulations for condominiums & townhouses, & new design standards for small lots. Consider automatic consolidation of outdated "skinny-mini" lots.	CD, COMMUNITY, PAB, & CC	Near-term	High	DONE
E-9	Amend the City's sign regulations to allow larger pole signs for properties adjacent to the I-5 corridor.	CD, COMMUNITY, PAB, & CC	Near-term	Medium	DONE
H-1	Complete statutorily required shoreline master program update.	CD, CC	Near-term	High	DONE
B-2	As part of the sewer project, replace & upgrade existing stormwater system.	PW	Near-term (2009 & 2010)	High	ONGOING The majority of the area shown in TNP Figure 21 has been constructed to the final roadway buildout, including all stormwater system elements. The exception is a section of Union Ave. that is shown in the current 6-yr TIP under project 302.0096.
B-4	Determine & work toward outcome for Tillicum Elementary School.	CPSD, CD, CPTC, & PC	Long-term	High	ONGOING
B-6	Monitor & pursue concurrency with outside agency (such as utilities, fire, schools, etc.) capital improvement projects & programs.	FIN, PW, CD (as appropriate)	Near- & long-term	High	ONGOING
B-7	Participate in PCLS master planning process & monitor its impact on the Tillicum branch, if any.	PCLS, CPSD, GSD, & CDD	Near-term ('09-'13)	Medium	ONGOING
B-9	Require commercial, institutional and multi-family developments to provide protected & secure bicycle parking.	CDD	Near-term	Medium	ONGOING
B-11	Develop/expand gateways that mark the entrances to Tillicum.	CD & PW	Near-term (2013)	Low	ONGOING
C-2	Maintain funding for public nuisance abatement aimed at improving property maintenance & building standards.	CM & CC	Near-term (2009-2013)	High	ONGOING
C-3	Finalize development of & carry out a Neighborhood Stabilization Program to address neighborhood blight, which may include purchasing & rehabilitating residential properties for sale to the Lakewood Area Shelter Association.	CD & GS	Near-term (2009-2013)	High	ONGOING
D-5	Use existing & seek additional funding to upgrade the following streets/intersections: <ul style="list-style-type: none"> Union Avenue SW from Berkeley Street SW to West Thorne Lane SW Berkeley Street SW/Union Avenue SW intersection Realignment of Maple St SW at Harry Todd Park 	CD & PW	Near- & long-term	High High Low Low	ONGOING

	<ul style="list-style-type: none"> Maple Street SW from Union Ave SW to Harry Todd Park 				
D-7	Work with the Tacoma Country & Golf Club establish a preliminary pedestrian pathway design to connect Tillicum with the main body of Lakewood.	CD & PW	Long-term	Medium	ONGOING – partnering w WSDOT and Sound Transit
D-9	As properties redevelop along Union Avenue SW, explore opportunities to create adequate street frontage to provide new on-street parking.	CD & PW	Near-term (2009–2013)	Medium	ONGOING
E-3	Amend the City's development regulations to enable innovative layouts, designs & configurations such as Z-lots, great house design, & cottage housing.	CD, COMMUNITY, PAB, & CC	Near-term (2010)	High	ONGOING
E-8	Support driveway consolidation & shared use of parking lots by Tillicum businesses.	CD, PW & COMMUNITY	Near- & long-term	High	ONGOING
E-10	Prepare a utility plan for Union Avenue SW. <ul style="list-style-type: none"> Determine the desirability & cost of placing utilities underground Work with utility purveyors to underground existing utilities Survey property owners to determine willingness to participate in a local improvement district (LID) Form an LID if property owners are in favor Work with present and future developers to ensure conformance with this action 	CD, PW, PSE, LWD & COMMUNITY	Near-term (2011-2012)	Medium	POWER DONE; WATER NOT DONE LWD unaware of any LIDs in the area.
E-11	Monitor development activity to identify regulatory &/or cost barriers that discourage investment in Tillicum.	CD & ED	Near- & long-term	Medium	ONGOING
F-1	Where feasible, use CDBG funding to enable owner-occupied residences to connect to the City's sewer system.	GS & PW	Near-term (2009- 2010)	High	ONGOING
F-3	Identify & take action against landlords who violate City codes, particularly building standards & garbage removal requirements.	CD, PW & LPD	Near-term (2009-2010)	High	ONGOING
F-4	Where appropriate, apply revised zoning regulations which remove impediments to urban infill and rehabilitation of existing housing stock.	CD, PAB, COMMUNITY & CC	Near-term (2009-2013)	High	ONGOING
F-6	Prepare a housing report for the Lakewood market which evaluates the feasibility & "break-even" point of offering density bonuses or other incentives. Utilize findings to review & adjust, as appropriate, the City's adopted Housing Incentives Program.	CD	Near-term (2010)	High	ONGOING
F-7	Vigorously enforce the 1997 Uniform Code for the Abatement of Dangerous Buildings (or subsequent code as may be adopted in the future).	CD, FIRE, CA, & LPD	Near-term (2009-2013)	High	ONGOING WITH CURRENT CODES
F-8	Vigorously enforce the 2006 International Property Maintenance Code. [Consider establishment of a pilot program that requires inspections of all rental housing. Where units do not meet minimum requirements, deny occupancy until repairs are made in a manner satisfactory to the City and Fire Marshal. This action item represents a significant expansion	CD, FIRE, CA & LPD	Near-term (2009-2013)	High	ONGOING WITH CURRENT CODE (2018 Int'l Property Maintenance Code) Pilot Program will not be done

	over existing levels of service & would require amendments to the City's business licensing regulations.]				
F-9	Provide sufficient funds to relocate eligible individuals & families who are forced to move from their residences because of serious health & safety violations.	GS & CD	Near-term (2009-2013)	High	ONGOING
F-10	Aggressively seek compensation from property owners where the City is forced to close housing units for health and safety reasons.	CD & CA	Near-term (2009-2013)	High	ONGOING
F-11	Build at least one Habitat for Humanity home in Tillicum per year.	GS, CD & COMMUNITY	Near-term (2009-2013)	Medium	ONGOING
F-12	Seek new sources of housing subsidies for affordable housing. Work with non-profit corporations, investors, & financial brokers to secure funds which can be used to expand opportunities for lower-cost home ownership & affordable rental housing.	ED & GS	Near- & long-term	Medium	ONGOING
F-17	Seek to increase the amount of transitional housing for homeless families & domestic violence victims.	GS & CD	Near- & long-term	Low	ONGOING

One action not mentioned in the TNP is the administration of the City's Rental Housing Safety Program, which was launched 2016 and was recognized by the Association of WA Cities in 2019 with a Municipal Excellence Award. This program will continue to operate and improve rental housing safety and quality in Tillicum.

TNP ACTION ITEMS <i>NOT DONE</i> (30)				
NO.	WHAT	WHO	WHEN	PRIORITY
A-1	Establish a community leadership team (CLT) comprised of City Council & school board members, residents, property owners, Tillicum businesses, & selected public agencies that serve Tillicum. Explore whether the existing merchants' & neighborhood associations could be rechanneled into the community leadership team, or if those associations wish to continue to exist independently.	CC, CM, CPSD, CPTC, PC & COMMUNITY	Near-term (2009)	High
A-2	Identify & appropriate funding to support the development of community outreach & life skills program for youth utilizing existing community resources such as the Tillicum/American Lake Gardens Community Service Center, PCLS Library, &/or new Youth for Christ center.	CC, CM & GS	Near- & long-term (2009-2013)	High
B-5	Fund one FTE to prepare & maintain an ongoing capital facilities plan to prioritize & direct City capital investment.	FIN, CM, CC	Near- & long-term	High (lack of funding)
B-12	Improve facilities in community centers, school & parks to provide facilities for after-school & weekend activities for youth.	REC, CPSD & COMMUNITY	Long-term (date unknown)	Low (lack of funding)
C-1	Maintain funding for the neighborhood patrol program in Tillicum to support neighborhood watch groups & provide regular communication with neighborhood & civic organizations.	CM & CC	Near-term (2009-2013)	High

C-4	Provide development preapplication packets to the Police Department & include their feedback on design from a CPTED perspective.	CD & LPD	Near-term (2009-2013)	High
D-2	Establish bicycle & pedestrian connections between residential areas, Union Avenue SW, & Harry Todd Park	CC, PAB, CTAC, CD, PW	Near-term (2009)	High
D-6	Identify bus stops with inadequate lighting & improve lighting at these stops. Examine the need for more shelters & posted schedules. Provide the telephone number of Pierce Transit's community liaison at bus stops.	PW & PT	Near- & long-term	Medium
D-8	Periodically review & update routes & frequency of transit bus lines with community input. Provide timely notification of route & service changes.	PW & PT	Near- & long-term	Medium
D-10	Address the need for on-street parking by small businesses.	CD & PW	Near-term (2010)	Medium
D-11	Establish street design guidelines for other streets including North Thorne Lane SW, Woodlawn Avenue SW, Maple Street SW, West Thorne Lane SW, & portions of Portland Avenue SW and Berkeley Street SW	CC, CD, PW & COMMUNITY	Near-term (2013)	Medium
D-13	Monitor & support funding for the Cross-Base Highway project	PW & CC	Near- & long-term	Low
D-14	Establish "green street" designations & associated improvements, including sidewalks, landscaping, bike lanes, crosswalks, & lighting, for Union Avenue SW, North Thorne Lane SW, Woodlawn Avenue SW, & West Thorne Lane SW. Seek compatibility between the provision of bicycle lanes & vehicular parking.	CC, PAB, CD, & COMMUNITY	Long-term	Low (lack of funding)
D-15	Install pedestrian signals on streets with high traffic volumes.	PW	Near-term (2013)	Low
D-16	Require commercial, institutional & multi-family developments to provide protected & secure bicycle parking.	CD	Near- & long-term	Low
E-1	Develop a marketing program to improve perceptions of the Tillicum neighborhood & promote the neighborhood as a desirable & affordable place to live.	ED & COMMUNITY	Near-term (2009)	High
E-2	Develop & adopt new zoning classifications to implement freeway-oriented commercial on the I-5 side of Union Avenue SW & tailored neighborhood commercial on the opposite side.	CD, COMMUNITY, PAB, & CC	Near-term (2009-2010)	High
E-3	Amend the City's development regulations to enable innovative layouts, designs & configurations such as Z-lots, great house design, & cottage housing.	CD, COMMUNITY, PAB, & CC	Near-term (2010)	High
E-4	Amend the City's development regulations to require a greater level of design for small lot residential development & for commercial development located along Union Avenue SW.	CDD, EDD & COMMUNITY	Near-term (2009-2010)	High
E-6	Establish a contract post office on Union Avenue SW	CD, ED, USPS	Near-term (2011)	High
E-7	Allow a reduction in the amount of off-street parking based on a parking study prepared by a registered professional engineer.	CD, COMM, PAB, & CC	Near-term (2009- 2010)	High
E-10	Prepare a utility plan for Union Avenue SW. <ul style="list-style-type: none"> Determine the desirability & cost of placing utilities underground Work with utility purveyors to underground existing utilities Survey property owners to determine willingness to participate in a local improvement district (LID) Form an LID if property owners are in favor of doing so 	CD, PW, PSE, LWD & COMMUNITY	Near-term (2011-2012)	Medium

	<ul style="list-style-type: none"> Work with present and future developers to ensure conformance with this action 			
E-11	Monitor development activity to identify regulatory &/or cost barriers that discourage investment in Tillicum.	CD & ED	Near- & long-term	Medium
F-2	Initiate discussions with other agencies to consider a program of reducing/waiving development &/or capacity fees as a means of promoting housing affordability.	CC, PW, CM & CD	Near-term (2009-2010)	High
F-5	Provide the news media with information about potential apartment closures.	CM	Near-term (2009-2010)	High
F-13	Establish an incentive awards program for well-maintained & trouble-free rentals.	CLT & CD	Near-term (2010)	Medium
F-14	Promote community awareness of financial subsidies available from public agencies for property & home improvement.	GS & ED	Near-term (2010)	Medium
F-15	Once sewers have been installed, consider use of the multi-family tax incentive program to target multi-family growth into selected parts of Tillicum.	CD, COMMUNITY, PAB & CC	Near-term (2010 – 2011)	Medium
F-16	Hold joint landlord training sessions with the Tillicum and American Lake Gardens neighborhoods.	GS & LPD	Near-term (2010)	Low (lack of funding)
I-1	Produce a brochure on Tillicum's history.	CD, LHAB	2009	High

LONG-RANGE STRATEGIES		
These are included here in unranked order as potential later-phase items, once more immediate priorities have been addressed.		
STRATEGY	DEPT	STATUS
• Consider realignment of the main entrance to Harry Todd Park in a manner that better relates to residential areas and creates more favorable access, in order to encourage its use by the community.	PRCS / PWE if road alignment is needed	NOT DONE
• Expand the children's play area within Harry Todd Park.	PRCS	DONE – new playground, restroom, access paths and picnic shelter built
• Develop a regional model, based on Harry Todd Park, for sustainable park development and maintenance.	PRCS	ONGOING – interested in new models, practices, products and options
• Support the use of green roofs, green walls, vegetated swales, and other such strategies to replace traditional detention techniques where appropriate to slow and cleanse stormwater.		NOT DONE
• Implement low-impact development, "green streets," and targeted urban design strategies.		
• Implement stronger design standards for commercial and multifamily development, including such items as location, materials, facade treatments, roof forms, pedestrian connectivity, landscaping, awnings, and signage.		
• Examine where incentives may be used to encourage sustainable development employing such standards as LEED® Silver for commercial structures and BuiltGreen™ 4-star or better for multifamily development.		
• Encourage street designs and plantings to increase canopy coverage, landscaping, and use of native species to beautify and enhance ecological value.	PWE/CED	NOT DONE - Challenge is funding of transportation projects.
• Improve regional transit connectivity with Tillicum. If Sound Transit service	PWE/CM	ONGOING

is extended southward, seek placement of an additional station in Tillicum.		
<ul style="list-style-type: none"> Identify and encourage other community-based services that support neighborhoods and families, such as low-cost medical care providers. 	PRCS	ONGOING – City supports Tillicum community center and other service providers in the neighborhood. 2 year grant funding cycle for 2023-24 begins mid-year
<ul style="list-style-type: none"> Develop a program for acquiring additional right of way along portions of Union Avenue SW in order to facilitate further improvements. In the future, expand "civic boulevard" design standards to include Portland Avenue SW between North Thorne Lane SW and West Thorne Lane SW, Union Avenue SW from Berkeley Avenue SW to Spruce Street SW, and Spruce Street SW from Union Avenue SW to Portland Avenue SW. 	PWE	ONGOING - Design to 30% starts in 2022. We will identify ROW needs for future funding requests. ROW will not be sufficient to create a boulevard with center median.
<ul style="list-style-type: none"> As additional development occurs within Tillicum and public surveillance opportunities are improved, seek additional opportunities to enhance and expand nonmotorized transportation opportunities. 	PWE	ONGOING

B. 2022 Proposed Rezoning in Tillicum Area

Two options were developed by staff following initial analysis related to the Habitat for Humanity-requested rezone of parcel no. 0219212108. Staff Option 1 is shown below:

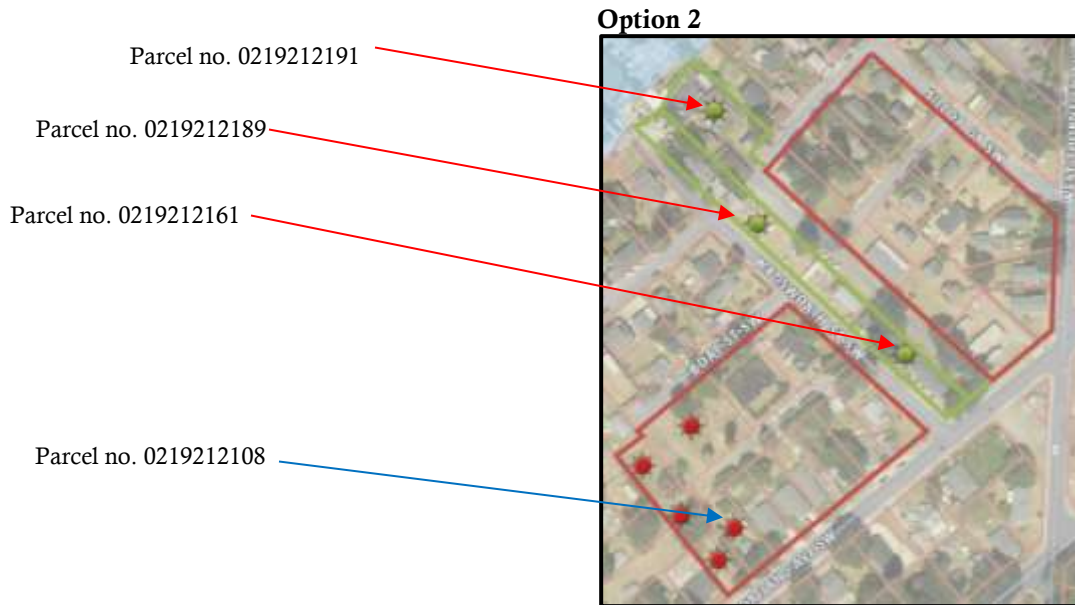
Option 1

Parcel no. 0219212108



The “red dots” on the map above show Habitat for Humanity property ownership. Under this proposal, the underlying land use and zoning for the area shown in red would be modified from Single Family/R3 to Mixed Residential/MR2. Current development density within this area matches MR2 standards.

Staff Option 2 would be to extend increased density further north, northwest. The proposed land use/zoning for both areas in red below would change from Single Family/R3 to Mixed Residential/MR2:



During public comments on the 2022 CPA docket, a request was submitted by the Silcox Island Corporation to rezone parcel no. 0219212189 from R3 to MR2 as part of amendment 2022-02. In the Option 1 map above, parcel no. 0219212189 is located across the street (Wadsworth) from the proposed rezone outlined in red.

In Option 2 above, the parcel is located in between the two areas proposed to be rezoned and outlined in red. These properties are affiliated with Bill's Boathouse, Silcox Island residents, a boat ramp, and parking area.

Parcel no. 0219212161 is adjacent to -189, but was not included in the request by Silcox Island Corporation. The parcel is designated/zoned as Open Space (OS)/Open Space & Recreation 2 (OSR2). The OS/OSR2 designation/zoning was part of a compromise with area residents when it was established in 2001, and the parcel would not be affected by this amendment.

Note: In early April 2022, Bill's Boathouse located on parcel 0219212189 was completely destroyed by fire. It is not yet known by the City whether the property owner will be considering rebuilding or using the parcel for a different purpose.

The map below depicts current Tillicum zoning



The map below is a rough depiction of zoning in the Tillicum neighborhood if Option 2 was combined with the requested rezone from Silcox Island Corporation. The neighborhood would have R3, MF1, MF2, MR2, NC2, PI, OSR1 and OSR2 parcels.



The aerial map below shows the resulting zoning pattern near parcels no. 0219212108 and 0219212189 if staff Option 2 were coupled with the rezone requests from Habitat for Humanity and Silcox Island Corporation:



RECOMMENDATION: Adopt staff’s “Option 2” coupled with the Habitat for Humanity and the Silcox Island Coporation requests, meaning to redesignate/rezone parcels as follows:

- **Redesignate/rezone from Single Family (SF)/Residential 3 (R3) to Mixed Residential (MR)/Mixed Residential 2 (MR2):**
 - Parcels 0219212108, -109, -110, -111, -112, -113, -114, -115, -117, -118, -141, -142, -143, -144, -192, -195, -196, -148, -149, -150, -151, and -189; and
 - Parcels 0219216009, -010, -011, -012

C. Centers of Local Importance (CoLIs) / Centers of Municipal Importance (CoMIs):

In 2019, per Pierce County Resolution 2019-070s, the Pierce County Countywide Planning Policies (CPPs) were updated to reflect the 2018 Puget Sound Regional Council (PSRC) Regional Centers Framework that established new CoLI policies. Lakewood ratified these changes per City Resolution 2020-03. CPP C-29 states in part that “CoLIs may only be located in a town or city without a Countywide or Regional Center located in Pierce County.” Lakewood has a Regional Growth Center coterminous with the Downtown Subarea; the City therefore cannot have designated CoLIs.

To be consistent with CPP Policy C-29, in 2022, the City of Lakewood is renaming its eight CoLIs “Centers of **Municipal** Importance”, or “**CoMIs**.” These CoMIs are not intended to be designated in the future as Countywide or Regional Centers, but instead to reflect the City of Lakewood’s focus areas for preservation, resource investment and/or community and economic development goals.

More details and amendatory language regarding this issue is included in proposed Comprehensive Plan amendment 2022-06, including renaming the “Tillicum CoLI” the “Tillicum CoMI.” Maps and descriptions of the eight CoMIs will be need to be updated in Comprehensive Plan Section 2.5 and other sections as well. For ease of reference, the discussion below will refer to the area as a CoMI.

Tillicum Center of Municipal Importance (CoMI)

In 2014, the City adopted a Center of Local Importance (CoLI) (now to be called a “Center of Municipal Importance,” or “CoMI” per amendment 2022-06) within the TNP boundaries. CoLIs were originally designated to focus development and funding to areas that are important to the local community. Residential CoLIs were intended to promote compact, pedestrian oriented development with a mix of uses, proximity to diverse services, and a variety of appropriate housing options.

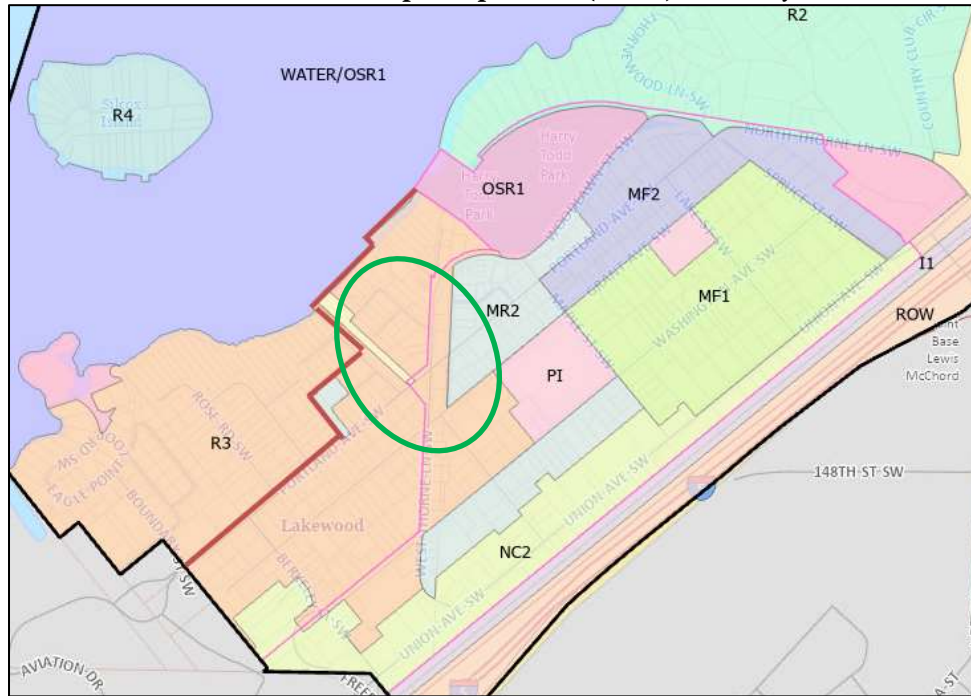
Proposed amendment 2022-02 is an opportunity to consider changing the boundaries of the Tillicum CoMI given land use changes in the area since it was adopted, including progress made on actions identified in the Tillicum Neighborhood Plan, the new I-5 interchanges at Thorne Lane and Berkeley, City infrastructure improvements, and development density changes as well as the proposed rezoning of the 27 parcels as recommended above.

The map below displays the 2014 Tillicum CoMI boundary in pink and the current land use zones in various colors:



The map below includes a proposed new NW boundary for the Tillicum CoMI in red that incorporates the rezoning was completed in 2021 near the new Berkeley interchange with I-5 and the proposed 27-parcel rezone that is proposed in this amendment. The green circle roughly encompasses the area where R3 parcels are proposed to be rezoned to MR2:

Draft new Tillicum Center of Municipal Importance (CoMI) Boundary



D. Development Regulation Text Amendments

18A.10.140 Establishment of subareas.

Per RCW 36.70A.080(2), in order to plan for and regulate the use of land and structures in a manner which recognizes that residential neighborhoods and business areas within Lakewood vary one from another in desired character, subareas may be established as optional elements of the comprehensive plan and implementing zoning regulations may be adopted as a title of the Lakewood Municipal Code (LMC.)

Subarea plans are implemented in part through the adoption of use, development, performance, or procedural regulations specific to the subarea or to a portion or portions of the subarea. Regulations which are specific to a subarea or portions of a subarea are located in the title of the LMC concerning the subarea.

The following subareas and subarea plans are established:

Name	Symbol	Code Title
Downtown Subarea Plan	DSAP	18B
Lakewood Station District Subarea Plan	LSDSP	18C
<u>Tillicum Subarea Plan</u>	<u>TSP</u>	<u>18D reserved</u>

Note: Still to come as part of 2022-02 for Public Hearing: 2022 Addendum to 2011 Tillicum Neighborhood Plan summarizing the status of its implementation, and edited language and maps in the Lakewood Comprehensive Plan regarding the Tillicum ~~Neighborhood~~ Subarea Plan and regarding the Tillicum CoMI.

2022-02 CEDD SEPA REVIEW

Housing Capacity Analysis: The rezone of 27 Tillicum parcels from Residential 3 (R3) to Mixed Residential 2 (MR2) would increase the City's housing capacity to the extent that specific parcel sizes in relation to zone densities can accommodate the higher density housing units:

R3	4.8 dua	MR2	14.6 dua
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A. Consistency with the Comprehensive Plan: This amendment improves the Lakewood Comprehensive Plan's internal consistency among its citywide, subarea, urban focus area, and Centers of Local ["Municipal"] Importance policies and related development regulations. It also improves consistency between the Plan and the City's CDBG, HOME, RSHP, COVID-19 (CARES Act and ARPA), and other affordable housing programs and plans.

B. Compatibility with development in the vicinity: This amendment increases development compatibility in the Tillicum subarea by recognizing the extension of sewer into the subarea since the Tillicum neighborhood Plan was adopted, the recent completion of the Berkeley and Thorne Lane Interchanges with I-5, and the rezoning requested by property owners over the 2020 – 2022 amendment cycles to provide higher density affordable housing and local retail services to Tillicum residents. Any specific development applications will be reviewed and regulated per the Lakewood Comprehensive Plan policies and Lakewood Municipal Code.

C. Transportation impacts and mitigation: Not applicable. This amendment includes map and text amendments to the Comprehensive Plan. Any specific development applications and their potential traffic impacts will be reviewed and regulated per the Lakewood Comprehensive Plan policies and Lakewood Municipal Code.

D. Public service impacts and mitigation: Not applicable. This amendment includes map and text amendments to the Comprehensive Plan. Any specific development applications and their potential public service impacts and mitigation will be reviewed and regulated per the Lakewood Comprehensive Plan policies and Lakewood Municipal Code.

E. Public health, safety and general welfare impacts: Not applicable. This amendment includes map and text amendments to the Comprehensive Plan. Any specific development applications and their potential public health, safety and general welfare impacts will be reviewed and regulated per the Lakewood Comprehensive Plan policies and Lakewood Municipal Code.

F. Range of permitted uses: This amendment includes map and text amendments to the Comprehensive Plan. The permitted uses in the proposed MR2 zoning versus those permitted in the existing R3 zoning are listed below:

List of Uses allowed in R3 zone versus MR2 zone

P = Allowed Outright C = Conditional Use

Type of Use	Use	R3 Max # of Units per Acre: 4.8	MR2 Max # of units per Acre: 14.6
Agricultural	Commercial beekeeping	P	P
	Growing and harvesting of crops	P	P
	Plant nurseries and greenhouses	P	P
	Raising and keeping of animals for agricultural purposes	P	-
	Residential beekeeping	P	P
Commercial and Industrial	Club, lodge, private meeting hall	C	-
	Places of assembly	P	P
Essential Public Facilities	Group Homes: See Section 18A.40.120 & Special Needs Housing Below		
	Minimum Security Institution	-	C
Government Services, General	Fire stations	P	C
Health and Social Services	Day care center in existing or new churches	C	-
	Day care center providing care for children and/or adult relatives of owners or renters of dwelling units located on the same site	-	P
	Preschool/nursery school	C	-
Lodging	Bed and breakfast guest houses	C	-
	Short term vacation rentals	P	P
Residential Uses	Accessory caretaker's unit	-	-
	Accessory dwelling unit	P	-
	Babysitting care	P	P
	Boarding house	C	-
	Cottage housing	P	-
	Co-housing (dormitories, fraternities and sororities)	-	P
	Detached single family	P	P
	2 family residential, attached or detached dwelling units	-	P
	3 family residential, attached or detached dwelling units	-	C
	Multifamily, four or more residential units	-	-
	Mixed use	-	-
	Family daycare	P	P
	Home agriculture	P	P
	Home occupation	P	-
	Mobile home parks	C	-
	Mobile and/or manufactured homes, in mobile/manufactured home parks	C	-

	Residential accessory building	P	P
	Rooms for the use of domestic employees of the owner, lessee, or occupant of the primary dwelling	-	-
	Small craft distillery	P	-
	Specialized senior housing	-	C
	Accessory residential uses	P	P
	Assisted Living Facility	-	C
Special Needs Housing	Confidential Shelter	P	P
	Continuing Care Retirement Community	-	C
	Enhanced Services Facility	-	-
	Hospice Care Center	C	C
	Nursing Home	-	C
	Type 1 Group Home – Adult Family Home	P	P
	Type 2 Group Home, Level 1	P	P
	Type 2 Group Home, Level 2	C	C
	Type 2 Group Home, Level 3	-	C
	Type 3 Group Home, Level 1	-	C
	Type 3 Group Home, Level 2	-	-
	Type 3 Group Home, Level 3	-	C
	Type 4 Group Home	-	-
	Type 5 Group Home	-	-
	Parking facilities (surface or structured)	P	P

Any specific development applications will be reviewed and regulated per the Lakewood Comprehensive Plan policies and Lakewood Municipal Code.

G. Change in circumstances: This amendment reflects updates to:

- Tillicum’s infrastructure (parks, sewer and transportation) and zoning;
- completion of a number of the identified action strategies in the 2011 Tillicum Neighborhood Plan;
- state statutory and administrative law; and
- regional, countywide and local housing policies.

H. Advantages vs. negative impacts: This amendment includes map and text amendments to the Comprehensive Plan. It improves the internal consistency among the Plan’s citywide, subarea, urban focus area, and Centers of Local [“Municipal”] Importance policies and related development regulations. It also improves consistency between the Plan and the City’s CDBG, HOME, RSHP, COVID-19 (CARES Act and ARPA), and other affordable housing programs and plans.

CEDD Recommendation: Approval

ATTACHMENT A
Comprehensive Plan Excerpts re Tillicum
To be updated for May 18 Public Hearing

2.5.1 Tillicum [as a Lakewood Center of Local Importance (CoLI)]

The community of Tillicum, Figure 2.4, is designated as a CoLI based on its characteristics as a compact, walkable community with its own unique identity and character. The area is located just outside the main gates of both Joint Base Lewis-McChord (JBLM) and Camp Murray National Guard Base (“Camp Murray”). The area is geographically isolated from the rest of Lakewood because of inadequate street connections. The only practical access to the area is provided by I-5. This center provides a sense of place and serves as a gathering point for both neighborhood residents and the larger region with regard to the resources it provides for Camp Murray, JBLM, and access to American Lake.

The Tillicum area includes many of the design features for a Center of Local Importance (CoLI) as described in CWPP UGA-50, including:

- Civic services including the Tillicum Community Center, Tillicum Elementary School, a fire station, JBLM and Camp Murray, the Tillicum Youth and Family Center, and several veterans service providers;
- Commercial properties along Union Ave. SW that serve highway traffic from I-5, personnel from JBLM and Camp Murray, and local residents;
- Recreational facilities including Harry Todd Park, Bills Boathouse Marina, the Commencement Bay Rowing Club, and a WDFW boat launch facility that attracts boaters from around the region;
- Historic resources including Thornewood Castle. Much of the area was developed between 1908 and the 1940s. The street pattern around Harry Todd Park reflects the alignment of a trolley line that served the area in the early 1900’s;
- Approximately 62 acres partially developed with, and zoned for, multi-family residential uses; and
- The Tillicum area is subject to specific treatment in the Comprehensive Plan (Section 3.10, Goal LU-52, LU-53 and Policies LU-53.1 through LU-53.4.) Additionally, the City adopted the Tillicum Neighborhood Plan in June 2011.

The Comprehensive Plan also describes the sewer expansion into Tillicum that began in 2009 and includes two Land Use Goals related specifically to Tillicum:

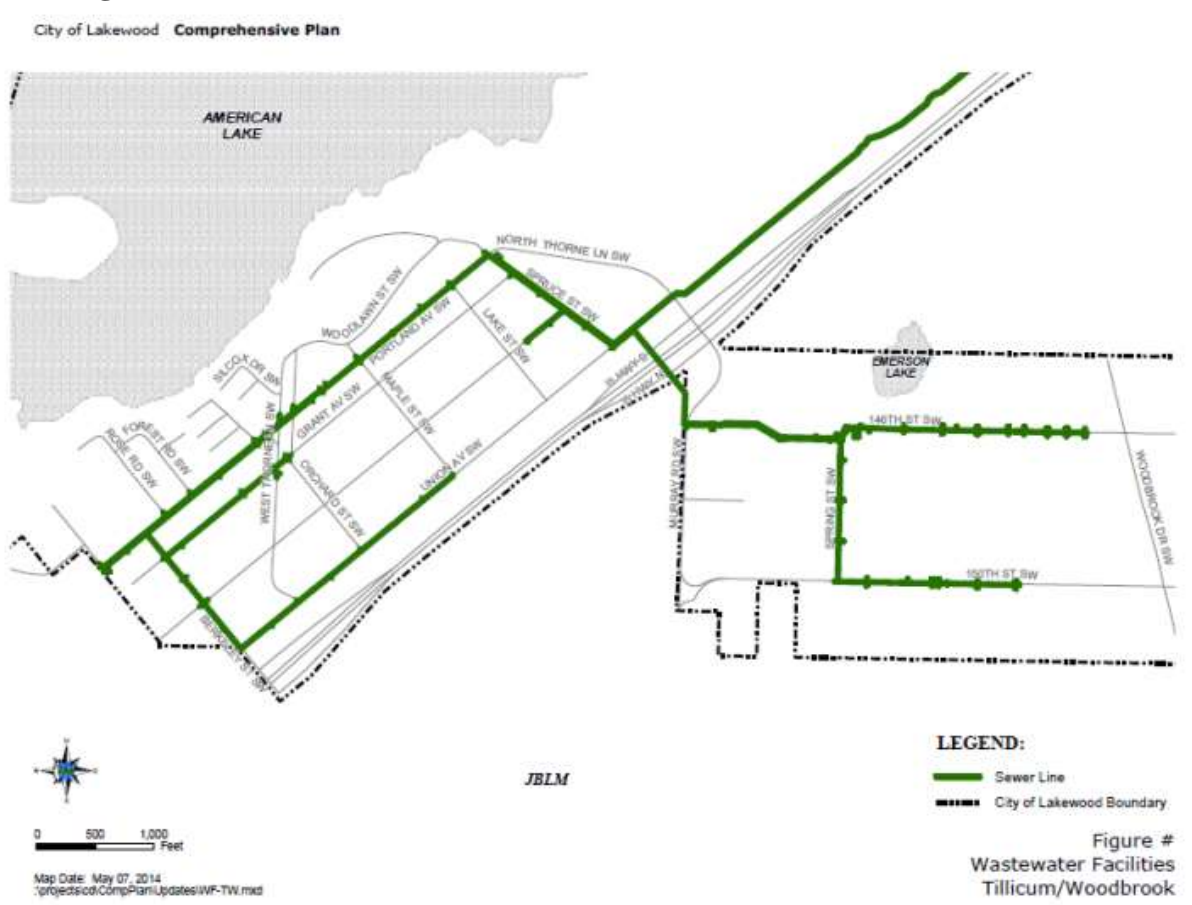
3.11 Isolated Areas

Lakewood has three significant areas that are geographically isolated from the rest of the City: Springbrook, Woodbrook, and Tillicum. The first two are separated from the rest of the City by I-5 and are bordered on several sides by fenced military installations. The third is geographically

contiguous to other parts of the City, but there are no direct road connections between Tillicum and other Lakewood neighborhoods.

As a result of this isolation, all three neighborhoods exhibit signs of neglect. Historically, both Woodbrook and Tillicum lack sewer systems. Beginning in June 2009, sewer trunk lines were installed in parts of both communities. Figure 3.12 shows the locations of major trunk lines in Lakewood-proper. Figure 3.13 shows the recently constructed sewer lines in Tillicum and Woodbrook. A small percentage of the Woodbrook properties and about one half of the Tillicum properties are connected, respectively, to sewers. It is the City's policy to connect all properties located within these neighborhoods to sewers based on available funding.

Figure 3.13 (2014)



Most property is old, run down, and undervalued. Springbrook is dominated by a chaotic assortment of land uses arranged according to a dysfunctional street pattern. Despite relatively high-density housing, Springbrook's residents lack schools, or even basic commercial services. Given the multitude of crime and health problems plaguing these areas, unique approaches are needed for each neighborhood and are presented in the goals and policies below. Springbrook has a designated residential Center of Local Importance (CoLI), discussed in Section 2.5.6 and shown in Figure 2.9. The City Council also rezoned a number of Springbrook parcels outside of the CoLI to Industrial Business Park in 2020. Additional recommendations for Tillicum are included in Chapter 4, while Chapter 5 addresses economic development in

Woodbrook.

GOAL LU-51: Minimize the impacts of geographic isolation of the Tillicum, Springbrook, and Woodbrook areas and focus capital improvements there to upgrade the public environment.

Policies:

LU-51.1: Provide for commercial and service uses for the daily needs of the residents within the neighborhoods.

LU-51.2: Support the expansion of recreation and open space.

LU-51.3: Provide pedestrian and bicycle paths within the neighborhoods and which connect to other neighborhoods.

GOAL LU-52: Improve the quality of life for residents of Tillicum.

Policies:

LU-52.1: Enhance the physical environment of Tillicum through improvements to sidewalks, pedestrian-oriented lighting, street trees, and other pedestrian amenities.

LU-52.2: Promote integration of Tillicum with the American Lake shoreline through improved physical connections, protected view corridors, trails, and additional designated parks and open space.

LU-52.3: Identify additional opportunities to provide public access to American Lake within Tillicum.

LU-52.4: Seek a method of providing alternate connection between Tillicum and the northern part of the City besides I-5.

LU-52.5: Implement and as necessary update the Tillicum Community Plan.

Section 4.5 of the Comprehensive Plan describes Tillicum in more detail:

4.5.2 Tillicum

The Tillicum neighborhood functions as a separate small village within Lakewood. Accessible only by freeway ramps at the north and south end of the area, it has its own commercial sector; moderately dense residential development; and an elementary school, library, and park. Tillicum is a very walkable neighborhood with a tight street grid and relatively low speed traffic. Harry Todd Park is one of the largest City-owned parks, and Tillicum is one of the few neighborhoods in the city with public waterfront access.

In public meetings discussing alternative plans for the city, Tillicum emerged as a neighborhood viewed as having significant potential for residential growth over the next 20 years. With a traditional street grid, significant public open space and lake access, and strong regional transportation connections, there is a major opportunity for Tillicum to evolve into a more urban,

pedestrian and bicycle-oriented community. This is further enhanced by the long-range potential for a commuter rail station and new highway connection to the east.

Because of recent extension of sewer service to the area, the development of multi-family housing in Tillicum is now possible. In addition to sewer development, there are other actions the City can take in support of the development of multi-family housing in Tillicum including: development of a long-range plan for Harry Todd Park and implementation of specific improvements to expand sewer capacity;

- development of a pedestrian connection between the park and commercial district along Maple Street, with sidewalks, curb ramps, crosswalks, lighting, and other improvements;
- improvements at the I-5 interchanges to create attractive, welcoming gateways; and
- a pedestrian/bikeway easement north along the railroad or through the country club to other portions of Lakewood.

The proposal by Amtrak to locate high-speed passenger rail service through the area (the Point Defiance Bypass project) will result in significant modifications to the freeway interchanges in Tillicum. These modifications should be designed in conjunction with improvements to I-5 to address congestion.

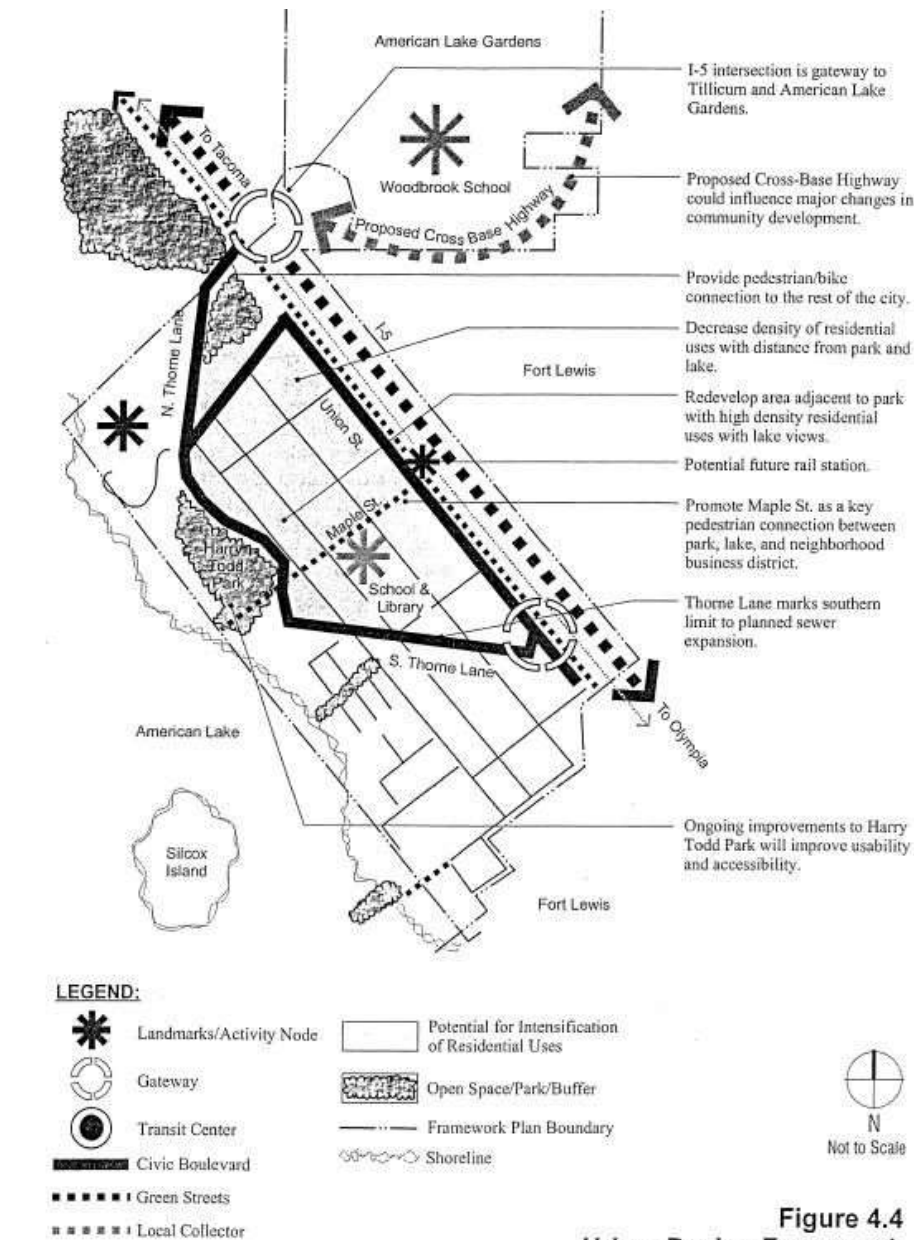
The urban design framework plan for Tillicum is shown in Figure 4.4. Some of the specific urban design actions which could be undertaken in Tillicum include:

Landmark/Activity Nodes: The northern entrance into Tillicum, as well as the only entrance into Woodbrook, is at the Thorne Lane overpass and I-5. It would be improved as a civic gateway, with landscaping, road improvements, signage, and other elements as needed. This interchange may be significantly redesigned in conjunction with the Point Defiance Bypass and I-5 congestion management projects.

Civic Boulevards: As the main entrance road into Tillicum and the perimeter road embracing multi-family development, Thorne Lane would be improved as a civic boulevard. Development intensification in Tillicum would occur east of Thorne Lane, with W. Thorne Lane marking the initial southern boundary of the sewer extension to keep costs in check. Potential improvements of Union Street in support of commercial functions would include such elements as pedestrian improvements, parking, landscaping, lighting, and other functional items. Long-range planning would also identify site requirements for the planned future commuter rail stop and propose a strategy to fulfill this need.

Green Streets: Maple Street would be improved as a green street to provide a pedestrian-oriented connection between American Lake and Harry Todd Park at one end, and the commercial district/future rail station at the other. In between, it would also serve the school and the library. It would serve as a natural spine, gathering pedestrian traffic from the surrounding blocks of multi-family housing and providing safe access to recreation, shopping, and public transportation.

Open Space: Harry Todd Park would be improved by upgrading existing recreation facilities and constructing additional day use facilities such as picnic shelters and restrooms. A local connection between Tillicum and the Ponders Corner area could be built along an easement granted by various landowners, principally the Tacoma Country and Golf Club and Sound Transit/ Burlington Northern Railroad.



SOURCE: EDAW, Inc. 1999.

GOAL UD-10: Promote the evolution of Tillicum into a vital higher density pedestrian-oriented neighborhood through application of urban design principles.

Policies:

UD-10.1: Identify opportunities for additional public/semi-public green space in Tillicum.

UD-10.2: Provide opportunities for pedestrian and bicycle connections from Tillicum to other portions of Lakewood.

UD-10.3: Improve identified civic boulevards, gateways, and green streets within Tillicum to provide a unifying and distinctive character.

GOAL ED-5: Promote the revitalization/redevelopment of the following areas within Lakewood:

- 1) the Downtown Subarea;
- 2) the South Tacoma Way & Pacific Highway Corridors;
- 3) Springbrook;
- 4) Tillicum/Woodbrook;
- 5) the Lakewood Station District Subarea; and
- 6) Lake City.

Policies:

ED-5.1: Where appropriate, develop and maintain public-private partnerships for revitalization.

ED-5.2: Pursue regional capital improvement opportunities within these specific areas.

ED-5.5: Continue existing programs to expand sewers throughout Tillicum and Woodbrook.

ED-5.7: Expand housing ownership opportunities.

ED-5.8: Identify and implement strategies to foster small business development and expansion.

ED-5.11: Remove blighted buildings from residential neighborhoods.

ED-5.12: Promote single family development in Lake City and Tillicum.

7.1 Sanitary Sewers

Sewer service in the City of Lakewood is almost entirely provided by Pierce County Public Works and Utilities. Sewer service was recently expanded to serve the Tillicum and Woodbrook communities. The Town of Steilacoom provides sewer service to Western State Hospital. Steilacoom has indicated that its facilities serving the Western State Hospital currently have additional growth capacity. The City of Tacoma provides sewer service to the Flett subdivision, and to commercial and residential users located in northeast Lakewood (80th Street and 84th Streets). Figure 7.2 describes the locations of all major sewer trunk lines within Lakewood.

The area immediately north of Pierce College and north of 101st Street SW, as well as the area along Clover Creek near Cochise Lane, remain unsewered. Since the adoption of the City's Comprehensive Plan in 2000, sewer trunk lines have been installed in Tillicum and Woodbrook.

Figure 7.2 (2014)



GOAL U-8: Ensure that new growth is served by sewers, and pursue a citywide system to eliminate current service deficits.

Policies:

U-8.1: Ensure that public sewage treatment and collection systems are installed and available for use coincident with new development.

U-8.2: Continue current efforts to extend sewers throughout all of Woodbrook and Tillicum.

U-8.3: Encourage extension of sewer service to Woodbrook and portions of Tillicum slated for density increases or changes in use consistent with the adopted Comprehensive Plan Future Land Use Map (see Policy LU-62.5).

Land-Use Implementation Strategies

11.3.12 Continue with redevelopment efforts in Tillicum and the preparation of development regulations and design standards as described in the Tillicum Neighborhood Plan originally adopted in June 2011 and updated thereafter.

Transportation Implementation Strategies

- Provide local support for the construction of a Sounder Station in Tillicum. The station could also serve as an Amtrak station if Amtrak service is added to the Sound Transit rail line.

ATTACHMENT B
Tillicum Neighborhood Plan Implementation Action Item Tables and
Long Term Strategies

TABLE 17 ACTION ITEMS: COMMUNITY CAPACITY DEVELOPMENT					
NO.	WHAT	WHO	WHEN	PRIORITY	STATUS: (DONE, ONGOING, NOT DONE)
A-1	Establish a community leadership team (CLT) comprised of City Council & school board members, residents, property owners, Tillicum businesses, & selected public agencies that serve Tillicum. Explore whether the existing merchants' & neighborhood associations could be rechanneled into the community leadership team, or if those associations wish to continue to exist independently.	CC, CM, CPSD, CPTC, PC & COMMUNITY	Near-term (2009)	High	NOT DONE
A-2	Identify & appropriate funding to support the development of community outreach & life skills program for youth utilizing existing community resources such as the Tillicum/American Lake Gardens Community Service Center, PCLS Library, &/or new Youth for Christ center.	CC, CM & GS	Near- & long-term (2009-2013)	High	NOT DONE

TABLE 18 ACTION ITEMS: UPDATE INFRASTRUCTURE					
No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
B-1	Install major sewer trunk line & side sewers in selected parts in Tillicum.	PW	Near-term (2009 & 2010)	High	<p>The sewer work that was originally planned for by the neighborhood plan was the construction of the sewer interceptors and 3 regional pump stations. That work was completed in 2012 by the City of Lakewood. Since then the City has built 4 additional sewer projects, 3 of which were partly funded by the County's Sewer Connection Fund.</p> <p>There are some portions of this area that still do not have sewers but as of right now the County does not have any sewer projects identified in its Sewer Improvement Program for this area. The City is partnering with Habitat for Humanity on sewers for their Boat Street project by using some of the City's ARPA funds.</p>
B-2	As part of the sewer project, replace & upgrade existing stormwater system.	PW	Near-term (2009 & 2010)	High	<p>ONGOING</p> <p>The majority of the area shown in TNP Figure 21 has been constructed to the final roadway buildout including all stormwater system elements. The exception is a section of Union Ave. that is shown in the 6-yr TIP, under project 302.0096.</p>
B-3	In conjunction with the sewer project, coordinate installation of new gas & water mains with utility companies.	PW, LWD, & PSE	Near-term (2009 & 2010)	High	<p>PSE has both electric and gas service to the area – including Union Ave (see item E-10).</p> <p>The water main improvements in TNP Figure 22 were completed in 2010. LWD has coordinated with the County on several water main replacements in the Tillicum area as sewer replacement projects have occurred and will continue to do so as projects develop.</p>
B-4	Determine & work toward	CPSD,	Long-term	High (lack	ONGOING

	outcome for Tillicum Elementary School.	CD, CPTC, & PC	(date unknown)	of funding)	
B-5	Fund one FTE to prepare & maintain an ongoing capital facilities plan to prioritize & direct City capital investment.	FIN, CM, CC	Near- & long-term	High (lack of funding)	NOT DONE
B-6	Monitor & pursue concurrency with outside agency (such as utilities, fire, schools, etc.) capital improvement projects & programs.	FIN, PW, CD (as appropriate)	Near- & long-term	High (lack of funding)	ONGOING
B-7	Participate in PCLS master planning process & monitor its impact on the Tillicum branch, if any.	PCLS, CPSD, GSD, & CDD	Near-term (2009-2013)	Medium	<p>ONGOING</p> <p>April 2019: City purchased land at 14702 Union Avenue for a new library. City is participating with PCLS in review of needs and outreach for Tillicum Library</p> <p>2019: Library conducted a community process in the City of Lakewood to have conversations with residents to understand their interests and support for potential new buildings in Lakewood and/or Tillicum neighborhood. Library conducted a fund raising feasibility study to understand the potential philanthropic support for new library buildings in Lakewood.</p> <p>2020: Began RFQ process for preliminary design. Project was placed on hold at onset of the pandemic.</p> <p>2021: Library conducted basic building assessments to understand current condition of Lakewood and Tillicum buildings.</p> <p>2022: Library and City of Lakewood convening a community-based Advisory Committee to review what is known, evaluate options, and make recommendations for next steps. Recommendation will be received in 2022 for determination of next steps.</p>
B-8	Make minor improvements to Harry Todd Park: <ul style="list-style-type: none"> ▪ Install trash enclosures with gates ▪ Install new playground border (wood chips) ▪ Install paved walking path around the park ▪ Resurface tennis/skate park area ▪ Remove perimeter fence at the park once a Park Watch team has been established & is in operation 	REC	Near-term (2013)	Medium	DONE
B-9	Require commercial, institutional and multi-family developments to provide protected & secure	CDD	Near-term	Medium	ONGOING

	bicycle parking.				
B-10	Make major improvements to Harry Todd Park: <ul style="list-style-type: none"> Repair existing docks Install new docks Install ADA improvements at Harry Todd Park Redesign Harry Todd park w realignment of Maple St SW 	REC & CD	Long-term (date unknown)	Low (lack of funding)	DONE
B-11	Develop/expand gateways that mark the entrances to Tillicum.	CD & PW	Near-term (2013)	Low (lack of funding)	ONGOING
B-12	Improve facilities in community centers, school & parks to provide facilities for after-school & weekend activities for youth.	REC, CPSP & COMMUNITY	Long-term (date unknown)	Low (lack of funding)	NOT DONE

Table 19 ACTION ITEMS: REDUCE CRIME & NEGLECT

No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
C-1	Maintain funding for the neighborhood patrol program in Tillicum to support neighborhood watch groups & provide regular communication with neighborhood & civic organizations.	CM & CC	Near-term (2009-2013)	High	NOT DONE
C-2	Maintain funding for public nuisance abatement aimed at improving property maintenance & building standards.	CM & CC	Near-term (2009-2013)	High	ONGOING
C-3	Finalize development of & carry out a Neighborhood Stabilization Program to address neighborhood blight, which may include purchasing & rehabilitating residential properties for sale to the Lakewood Area Shelter Association.	CD & GS	Near-term (2009-2013)	High	ONGOING (Need to transfer NSP funds to a different account)
C-4	Provide development preapplication packets to the Police Department & include their feedback on design from a CPTED perspective.	CD & LPD	Near-term (2009-2013)	High	ONGOING
C-5	Use the community service & code enforcement officer positions to proactively ensure all Tillicum businesses & rental housing are properly licensed.	CD & LPD	Near-term (2009-2013)	High	ONGOING BY CED STAFF

TABLE 20 ACTION ITEMS: Transportation IMPROVEMENTS

No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
D-1	Prepare a traffic congestion report for the I-5 Corridor from Highway 512 to Mounts Road.	CD	Near-term (2009 & 2010)	High	DONE
D-2	Establish bicycle & pedestrian connections between residential areas, Union Avenue SW, & Harry Todd Park	CC, PAB, CTAC, CD & PW	Near-term (2009)	High	NOT DONE
D-3	Initiate formal discussions with other agencies regarding improvements to the I-5, Union Avenue SW, & Berkeley Street SW road intersections.	CM, CD, PW, MD, FL, WSDOT & COMMUNITY	Near-term (2009)	High	DONE

D-4	Establish street design guidelines for Union Avenue SW	CC, CD, PW & COMMUNITY	Near-term (2009)	High	DONE (may need revision)
D-5	Use existing & seek additional funding to upgrade the following streets/intersections: <ul style="list-style-type: none"> Union Avenue SW from Berkeley Street SW to West Thorne Lane SW Berkeley Street SW/Union Avenue SW intersection Realignment of Maple Street SW at Harry Todd Park Maple St SW from Union Ave SW to Harry Todd Park 	CD & PW	Near- & long-term	High High Low Low	ONGOING
D-6	Identify bus stops with inadequate lighting & improve lighting at these stops. Examine the need for more shelters & posted schedules. Provide the telephone number of Pierce Transit's community liaison at bus stops.	PW & PT	Near- & long-term	Medium	ONGOING DISCUSSION WITH PIERCE TRANSIT.
D-7	Work with the Tacoma Country & Golf Club establish a preliminary pedestrian pathway design to connect Tillicum with the main body of Lakewood.	CD & PW	Long-term	Medium	ONGOING
D-8	Periodically review & update routes & frequency of transit bus lines with community input. Provide timely notification of route & service changes.	PW & PT	Near- & long-term	Medium	NOT DONE 2/7/22: Pierce Transit is coordinating with Lakewood (through the Sound Transit Lakewood Station Access Improvements project) on developing a funding and implementation plan for transit and non-motorized mode improvements that would benefit Sounder Station users within the vicinity of the station. No potential improvements have been identified through the Sound Transit Access project that would directly affect the Tillicum subarea. Here's the link to the project webpage: https://www.soundtransit.org/system-expansion/lakewood-station-access-improvements
D-9	As properties redevelop along Union Avenue SW, explore opportunities to create adequate street frontage to provide new on-street parking.	CD & PW	Near-term (2009–2013)	Medium	ONGOING
D-10	Address the need for on-street parking by small businesses.	CD & PW	Near-term (2010)	Medium	NOT DONE
D-11	Establish street design guidelines for other streets including North Thorne Lane SW, Woodlawn Avenue SW, Maple Street SW, West Thorne Lane SW, & portions of Portland Avenue SW and Berkeley Street SW	CC, CD, PW & COMMUNITY	Near-term (2013)	Medium	NOT DONE
D-12	Monitor the Point Defiance Rail project	CD & PW	Near- & long-term	Low	DONE
D-13	Monitor & support funding for the Cross-Base Highway project	PW & CC	Near- & long-term	Low	REMOVE – Cross-Base Hwy obsolete

D-14	Establish "green street" designations & associated improvements, including sidewalks, landscaping, bike lanes, crosswalks, & lighting, for Union Avenue SW, North Thorne Lane SW, Woodlawn Avenue SW, & West Thorne Lane SW. Seek compatibility between the provision of bicycle lanes & vehicular parking.	CC, PAB, CD, & COMMUNITY	Long-term	Low (lack of funding)	NOT DONE – needs revision
D-15	Install pedestrian signals on streets with high traffic volumes.	PW	Near-term (2013)	Low	NOT DONE
D-16	Require commercial, institutional & multi-family developments to provide protected & secure bicycle parking.	CD	Near- & long-term	Low	NOT DONE – LIMITED DEVELOPMENT T DATE

TABLE 21 ACTION ITEMS: RESIDENTIAL & COMMERCIAL REVITALIZATION

No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
E-1	Develop a marketing program to improve perceptions of the Tillicum neighborhood & promote the neighborhood as a desirable & affordable place to live.	ED & COMMUNITY	Near-term (2009)	High	ONGOING
E-2	Develop & adopt new zoning classifications to implement freeway-oriented commercial on the I-5 side of Union Avenue SW & tailored neighborhood commercial on the opposite side.	CD, COMMUNITY, PAB, & CC	Near-term (2009–2010)	High	ONGOING
E-3	Amend the City's development regulations to enable innovative layouts, designs & configurations such as Z-lots, great house design, & cottage housing.	CD, COMMUNITY, PAB, & CC	Near-term (2010)	High	ONGOING
E-4	Amend the City's development regulations to require a greater level of design for small lot residential development & for commercial development located along Union Avenue SW.	CDD, EDD & COMMUNITY	Near-term (2009-2010)	High	PLANNED
E-5	Update the City's current subdivision regulations, including the establishment of new regulations for condominiums & townhouses, & new design standards for small lots. Consider automatic consolidation of outdated "skinny-mini" lots.	CD, COMMUNITY, PAB, & CC	Near-term (2010)	High	DONE
E-6	Establish a contract post office on Union Ave SW	CD, ED, & USPS	Near-term (2011)	High	REMOVE
E-7	Allow a reduction in the amount of off-street parking based on a parking study prepared by a registered professional engineer.	CD, COMMUNITY, PAB, & CC	Near-term (2009–2010)	High	NOT DONE
E-8	Support driveway consolidation & shared use of parking lots by Tillicum businesses.	CD, PW & COMMUNITY	Near- & long-term	High	ONGOING
E-9	Amend the City's sign regulations to allow larger pole signs for properties adjacent to the I-5 corridor.	CD, COMMUNITY, PAB, & CC	Near-term (2010)	Medium	DONE
E-10	Prepare a utility plan for Union Avenue SW. <ul style="list-style-type: none"> Determine the desirability & cost of placing utilities underground Work with utility purveyors to underground existing utilities Survey property owners to determine willingness to participate in a local improvement district (LID) Form an LID if property owners are in favor of doing so Work with present and future developers to ensure conformance with this action 	CD, PW, PSE, LWD & COMMUNITY	Near-term (2011-2012)	Medium	Utilities review DONE; LID NOT DONE PSE has both electric and gas service to the area – including Union Ave. LWD has coordinated with the County on several water main

					replacements in the Tillicum area as sewer replacement projects have occurred. We hope to continue to do so as projects develop.
E-11	Monitor development activity to identify regulatory &/or cost barriers that discourage investment in Tillicum.	CD & ED	Near- & long-term	Medium	ONGOING
E-12	See action no. C-3.	-	-	-	ONGOING

TABLE 22 ACTION ITEMS: ENHANCE HOUSING OPPORTUNITIES

No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
F-1	Where feasible, use CDBG funding to enable owner-occupied residences to connect to the City's sewer system.	GS & PW	Near-term (2009- 2010)	High	ONGOING
F-2	Initiate discussions with other agencies to consider a program of reducing/waiving development &/or capacity fees as a means of promoting housing affordability.	CC, PW, CM & CD	Near-term (2009- 2010)	High	NOT DONE
F-3	Identify & take action against landlords who violate City codes, particularly building standards & garbage removal requirements.	CD, PW & LPD	Near-term (2009-2010)	High	ONGOING
F-4	Where appropriate, apply revised zoning regulations which remove impediments to urban infill and rehabilitation of existing housing stock.	CD, PAB, COMMUNITY & CC	Near-term (2009-2013)	High	ONGOING
F-5	Provide the news media with information about potential apartment closures.	CM	Near-term (2009-2010)	High	NOT DONE
F-6	Prepare a housing report for the Lakewood market which evaluates the feasibility & "break-even" point of offering density bonuses or other incentives. Utilize findings to review & adjust, as appropriate, the City's adopted Housing Incentives Program.	CD	Near-term (2010)	High	ONGOING
F-7	Vigorously enforce the 1997 Uniform Code for the Abatement of Dangerous Buildings (or subsequent code as may be adopted in the future).	CD, FIRE, CA, & LPD	Near-term (2009-2013)	High	ONGOING W UPDATED CODES
F-8	Vigorously enforce the 2006 International Property Maintenance Code. Consider establishment of a pilot program that requires inspections of all rental housing. Where units do not meet minimum requirements, deny occupancy until repairs are made in a manner satisfactory to the City and Fire Marshal. This action item represents a significant expansion over existing levels of service & would require amendments to the City's business licensing regulations.	CD, FIRE, CA & LPD	Near-term (2009-2013)	High (lack of funding)	ONGOING W UPDATED CODES
F-9	Provide sufficient funds to relocate eligible individuals & families who are forced to move from their residences because of serious health & safety violations.	GS & CD	Near-term (2009-2013)	High (lack of funding)	ONGOING
F-10	Aggressively seek compensation from property owners where the City is forced to close housing units for health and safety reasons.	CD & CA	Near-term (2009-2013)	High (lack of funding)	ONGOING
F-11	Build at least one Habitat for Humanity home in Tillicum per year.	GS, CD & COMMUNITY	Near-term (2009-2013)	Medium	ONGOING
F-12	Seek new sources of housing subsidies for affordable housing. Work with non-profit corporations, investors, & financial brokers to secure funds which can be used to expand opportunities for lower-cost home ownership & affordable rental housing.	ED & GS	Near- & long-term	Medium	ONGOING

F-13	Establish an incentive awards program for well-maintained & trouble-free rentals.	CLT & CD	Near-term (2010)	Medium	NOT DONE
F-14	Promote community awareness of financial subsidies available from public agencies for property & home improvement.	GS & ED	Near-term (2010)	Medium	NOT DONE
F-15	Once sewers have been installed, consider use of the multi-family tax incentive program to target multi-family growth into selected parts of Tillicum.	CD, COMMUNITY, PAB & CC	Near-term (2010 – 2011)	Medium	NOT DONE
F-16	Hold joint landlord training sessions with the Tillicum and American Lake Gardens neighborhoods.	GS & LPD	Near-term (2010)	Low (lack of funding)	NOT DONE
F-17	Seek to increase the amount of transitional housing for homeless families & domestic violence victims.	GS & CD	Near- & long-term	Low (lack of funding)	ONGOING

TABLE 23 ACTION ITEMS: AMERICAN LAKE ACCESS					
No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
G-1	See action no. B-10.	-	-	-	
	B-10 Make major improvements to Harry Todd Park: <ul style="list-style-type: none"> Repair existing docks Install new docks Install ADA improvements at Harry Todd Park Redesign Harry Todd park with realignment of Maple Street SW	REC & CD	Long-term (date unknown)	Low (lack of funding)	DONE

TABLE 24 ACTION ITEMS: ENVIRONMENTAL PROTECTION					
No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
H-1	Complete statutorily required shoreline master program update.	CD, CC	Near-term (by 2011)	High	DONE

TABLE 25 ACTION ITEMS: HISTORIC PRESERVATION					
No.	WHAT	WHO	WHEN	Priority	STATUS: (DONE, ONGOING, NOT DONE)
I-1	Produce a brochure on Tillicum's history.	CD, LHAB	2009	High	NOT DONE

TILlicum NEIGHBORHOOD PLAN LONG-RANGE STRATEGIES		
In addition to the specific actions suggested above, a number of strategies emerged through this plan's development that are thought to be outside of a foreseeable window. Certain actions cannot occur until a certain degree of evolution has occurred in other areas; while others may be part of broader citywide initiatives that affect Tillicum. These are included here in unranked order as potential later-phase items, once more immediate priorities have been addressed.		
STRATEGY	WHO	STATUS (DONE, ONGOING, NOT DONE)
• Consider realignment of the main entrance to Harry Todd Park in a manner that better relates to residential areas and creates more favorable access, in order to encourage its use by the community.		
• Expand the children's play area within Harry Todd Park.		

• Develop a regional model, based on Harry Todd Park, for sustainable park development and maintenance.		
• Support the use of green roofs, green walls, vegetated swales, and other such strategies to replace traditional detention techniques where appropriate to slow and cleanse stormwater.		
• Implement low-impact development, "green streets," and targeted urban design strategies.		
• Implement stronger design standards for commercial and multifamily development, including such items as location, materials, facade treatments, roof forms, pedestrian connectivity, landscaping, awnings, and signage.		
• Examine where incentives may be used to encourage sustainable development employing such standards as LEED® Silver for commercial structures and BuiltGreen™ 4-star or better for multifamily development.		
• Encourage street designs and plantings to increase canopy coverage, landscaping, and use of native species to beautify and enhance ecological value.	PWE/ CED	Not Done. Challenge is funding of transportation projects.
• Encourage street designs and plantings to increase canopy coverage, landscaping, and use of native species to beautify and enhance ecological value.	PWE/ CED	ONGOING
• Improve regional transit connectivity with Tillicum. If Sound Transit service is extended southward, seek placement of an additional station in Tillicum.		
• Identify and encourage other community-based services that support neighborhoods and families, such as low-cost medical care providers.		
• Develop a program for acquiring additional right of way along portions of Union Avenue SW in order to facilitate further improvements. In the future, expand "civic boulevard" design standards to include Portland Avenue SW between North Thorne Lane SW and West Thorne Lane SW, Union Avenue SW from Berkeley Avenue SW to Spruce Street SW, and Spruce Street SW from Union Avenue SW to Portland Avenue SW.	PWE	Design to 30% starts in 2022. We will identify ROW needs for future funding requests. ROW will not be sufficient to create a boulevard with center median.
• As additional development occurs within Tillicum and public surveillance opportunities are improved, seek additional opportunities to enhance and expand nonmotorized transportation opportunities.	PWE	ONGOING

ATTACHMENT C



TILLICUM NEIGHBORHOOD PLAN

**Adopted
June 2011**



Spring Is in the Air (February 2009)

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Lakewood, WA 98499-5027
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"Klahowya tillicum!"

~"Greetings, friend" in Chinook language

ACKNOWLEDGMENTS

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At residential school, the children
joined hands under the table and they
whispered, "All my relations" while
Father said grace. In the dark, before
Father came to choose, they planned
their freedom rides across the water.

Some said it was better to find logs
on the beach and paddle with tree
branches. Others said they would wait
for the whales. "We'll catch a ride with
Tillicum," meaning "our brother" in
the Chinook language, the children
said when Father wasn't looking.

Several children disappeared on the
exodus from Kuper Island. When the
Orcas sang, I wondered if they were
trying to tell us what happened to
children and whales in captivity.

We say the same thing about captured
whales & stolen children as we do of
women in labour, "They will forget the
pain," but do they, their loneliness
breaching in every leap from the deep
pools where they grieve for freedom &
all their relations? Do we stop to think
that the Orca Tillicum, companion of
three drowned souls, might also be
desperate to find his way home?

~"Tillicum" (2010) by Linda Rogers, City of Victoria, BC, poet laureate

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¹ All base maps used for figures contain references to Ft. Lewis & McChord Air Force Base, which are now joined as Joint Base Lewis-McChord (JBLM).

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LIST OF ACRONYMS

ADA	Americans with Disabilities Act
BNSF	Burlington Northern Santa Fe
CDBG	Community Development Block Grant
CISL	Communities in Schools (Lakewood)
CPSD	Clover Park School District
CPTED	Crime prevention through environmental design
DoD	(United States) Department of Defense
EPA	(United States) Environmental Protection Agency
FONSI	Finding of No Significant Impact
GMA	(Washington State) Growth Management Act
I-5	Interstate 5
JBLM	Joint Base Lewis-McChord
LID	Local Improvement District
LMC	Lakewood Municipal Code
LOS	Level of service
NEPA	National Environmental Policy Act
NMTP	Non-Motorized Transportation Plan
PSE	Puget Sound Energy
SEPA	(Washington) State Environmental Policy Act
SPUI	Single-point urban interchange
SR 704	State Route 704 (also known as Cross-Base Highway)
ST	Sound Transit
TAC	Tillicum Action Committee
TWNA	Tillicum/Woodbrook Neighborhood Association
ULID	Utility local improvement district
VFW	Veterans of Foreign Wars
WSDOT	Washington State Department of Transportation

Additional acronyms used in the implementation tables may be found on page 84 (**Table 16**).

BACKGROUND

What's the Purpose of this Plan?

This neighborhood plan offers a foundation for Lakewood's efforts to revitalize a long neglected and isolated part of the community. Tillicum has a rich history and many unique landmarks. At one time, it was a vibrant vacation destination with a commuter rail system that connected Tillicum with Tacoma and other parts of pre-incorporation Lakewood. Tillicum also provided much-needed housing for soldiers and their families during World Wars I and II. Unfortunately, the replacement of old Hwy. 99 with a limited access freeway in the 1950s² severed Tillicum from the rest of the community, leaving it isolated and distinctly separate from other urban and suburban areas. Redevelopment opportunities dwindled in part because of new environmental regulation introduced in the 1970s as well as neglect from county government, which is often poorly suited to address urban problems. As a result, property values diminished, and crime became a chronic issue.

Nevertheless, Tillicum possesses three unique urban features that distinguish it from other Lakewood neighborhoods. Tillicum is one of the few neighborhoods in the city with public waterfront access and a public park. Tillicum also has a traditional street grid system which better supports connectivity and pedestrian appeal. Even while Interstate 5 (I-5) created a barrier, it also provides Tillicum with freeway frontage which benefits commercial redevelopment. That frontage, together with the proximity to Ft. Lewis and Madigan Hospital, offers untapped opportunities.

Beyond physical features, Tillicum enjoys a strong sense of community. Long-time residents who live there remember Tillicum for what it was, they believe in its future, and they are committed to positive change for the area.

This plan seeks to revitalize the community by building upon the neighborhood's assets. To make this work, the plan includes specific implementation measures that would be introduced over the next five years based on neighborhood input, City Council priorities, and budget resources. As the community evolves and moves forward, the implementation measures would also evolve to meet specific needs. In essence, these measures represent a report card for Tillicum residents, merchants and property owners, and the City of Lakewood.

Another important goal of this plan is to involve local residents in a new empowerment paradigm. To relieve many of the social ills confronting this small community, the City encourages neighborhood leadership development and collaborative community involvement. While the City can take some actions to bring about change, those who reside in Tillicum must accept responsibility for and actively participate in steering that change. In

² According to a website privately maintained by a WSDOT cartographer, the portion of I-5 between Exits 116 (Mounts Road) and 124 (Gravelly Lk. Dr. SW) was built on top of old US 99 through Ft. Lewis: "Originally a two lane road, US 99 through Fort Lewis had been widened to 4 lanes in the later 1930s. At first there were grade crossings in this area but there were no private driveways since this section of highway passed through federal government land." The author explains that the segment in the immediate area of Tillicum was upgraded to "freeway" in the 1950s and, just a few years later, was widened to six lanes. At the north end of Tillicum, the segment between Thorne Lane and Gravelly Lk. Dr. SW was widened to eight lanes in the mid 1970s.

this sense, the Tillicum plan can offer a model for other distressed neighborhoods and, ultimately, for the revitalization of Lakewood as a whole.

Neighborhood Plan Area

The Tillicum neighborhood encompasses the area outlined in **Figure 1** on the next page. The area is bounded by I-5 and the former Burlington Northern Santa Fe (BNSF)³ railroad to the southeast, Camp Murray to the southwest, the American Lake shoreline to the northwest, and private gated communities to the northeast. The neighborhood can be broken into three subareas: shoreline single-family properties, mixed density residential areas, and the Union Avenue SW commercial corridor.

The Tillicum neighborhood plan area is about 330 acres in size and, according to property tax and geographic information system data, contains 1,081 dwelling units⁴, yielding an overall density of approximately 3.28 dwelling units per acre.

Other Plans & Projects

A number of public and private plans and initiatives involving or affecting Tillicum have either taken place in the past 30 years, are currently underway, or are "on the drawing board."

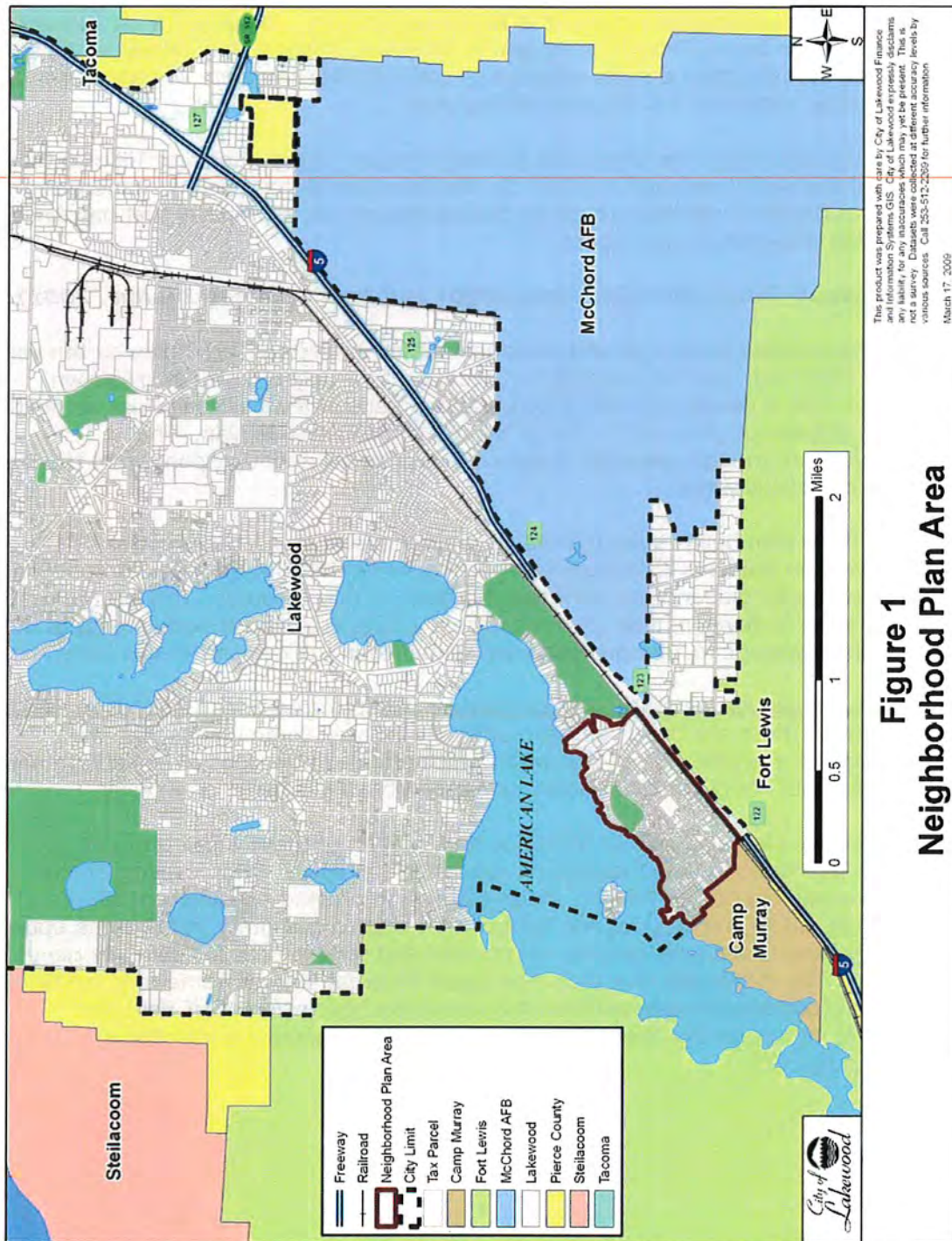
Comprehensive Neighborhood Land Use Plan [for] Tillicum, Washington (December 1980)

In 1979, Tillicum residents approached Pierce County for assistance in developing a library and making improvements to Harry Todd Park. County officials wanted to help the neighborhood but felt that a more comprehensive view of the community's problems, needs and priorities were required. A block grant advisory board was established consisting of local residents from a wide variety of backgrounds. To assist the board, the then-Pierce County Board of Commissioners retained Calvin Jordan and Associates to develop a comprehensive neighborhood plan to guide the future development of Tillicum. Surveys of Tillicum residents and property owners were conducted. Monthly informal meetings were held to discuss and review information and, through this process, recommendations came forward regarding growth, land uses and implementation tools and procedures.

One interesting aspect of this first neighborhood plan was public opinion on public services and incorporation. Property owners and local residents felt that significant improvements were needed to streets, sidewalks and storm drainage. Negative comments were received regarding community appearance, crime rates and lack of adequate police protection. Property owners indicated that police protection would improve if Tillicum would incorporate, but only 20 percent felt that incorporation was warranted.

³ Sound Transit (ST) has acquired the rail line that runs nearest I-5 in Lakewood, whose proper name was previously the "BNSF Lakeview Subdivision." Although ST has not formally renamed the line, its staff indicated that due to the ownership change, referring to it as the "ST line" would be appropriate. Further, they noted that the line adjacent to Tillicum could potentially be referenced as the "Lakewood to DuPont segment" as Sounder service extends southward in the future.

⁴ This differs considerably from the 2,189 dwelling units shown in the census data on page 33 because, as explained in the preface on page 32, the census data includes the entirety of Census Tract 720 which is considerably larger than the neighborhood plan area.



In many cases, older planning documents are fully outdated in terms of their applicability to current-day situations. Circumstances may have changed, and intermediate steps may have been taken to address the issues involved in earlier plans. However, a considerable degree of stagnation facing Tillicum is evident in reviewing this old plan. Many of the same challenges and infrastructure deficits continue to confront Tillicum some 30 years later, only to become further entrenched in the intervening years.

Figure 2 on the following page shows the general land-use designations for Tillicum that were a part of the plan developed in 1980. It should be noted that this figure merges the map created at the time with today's parcel boundaries, so some property that has since been developed is shown as open space.

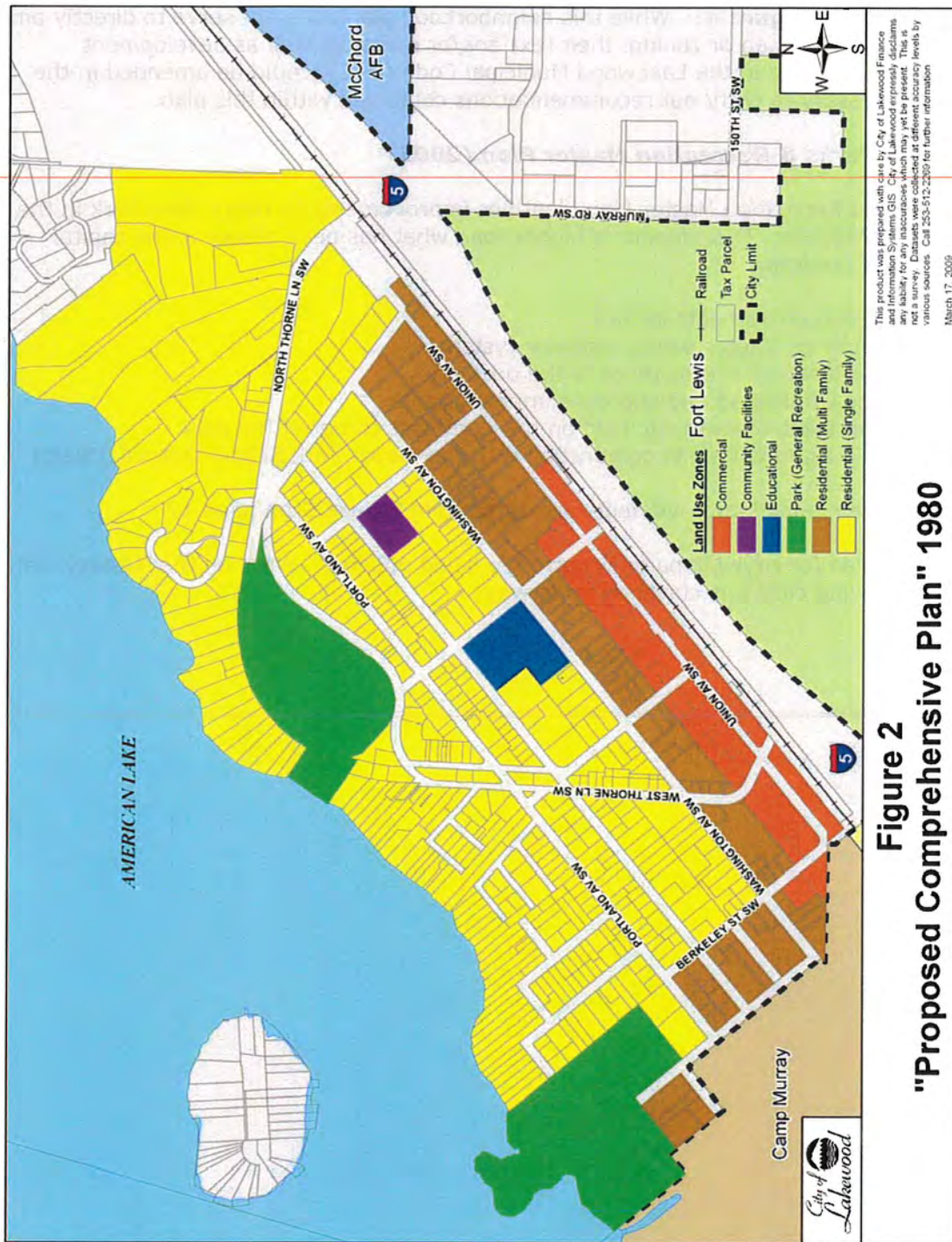
City of Lakewood Comprehensive Plan (2000) and New Citywide Zoning (2001)

Adoption of Washington State's growth management law trailed the 1980 plan by ten years. Although the 1980 plan was not adapted by Lakewood as it began developing its own comprehensive plan following its 1996 incorporation, many of the basic land-use attributes of the first neighborhood plan are similar to today's comprehensive plan. The comprehensive plan, though, provides greater levels of detail and is responsive to the state law that didn't previously exist.

This neighborhood plan builds upon the City's comprehensive plan. Lakewood's comprehensive plan presents a citywide perspective, while the Tillicum Neighborhood Plan provides more specific guidance both for the allocation of City resources and for the location and design of private development. It may serve to direct subsequent refinements to the goals and policies specific to Tillicum which are contained in the comprehensive plan.

There is a notable section within the comprehensive plan referred to as "Isolated Areas" that includes Tillicum. These are the three geographically isolated communities that are physically separate from the rest of Lakewood which often exhibit signs of neglect; in many cases improvements are old and run down, and property values suffer as a result.

The comprehensive plan attempts to minimize the isolation of these areas through improving the quality of life and focusing on capital investments. Other aspects of the comprehensive plan specific to Tillicum concentrate on improving housing conditions, increasing public safety, recognizing the impact from adjoining military installations upon this part of Lakewood, and providing for commercial and service uses for the daily needs of local residents. The comprehensive plan also posed an urban design framework for Tillicum that envisioned considerable redevelopment and eventual extension of ST Sounder (commuter rail) service to this area. Significant policy statements are included in **Appendix A** (page 91).



On the next two pages, **Figure 3** shows the current comprehensive plan future land-use designations for Tillicum, whose direction was carried forward into the City's new zoning adopted in 2001 (**Figure 4**). While this neighborhood plan does not serve to directly amend the comprehensive plan or zoning, their text and/or maps, as well as development regulations embodied in the Lakewood Municipal Code (LMC), could be amended in the future if necessary to carry out recommendations contained within this plan.

Lakewood Parks & Recreation Master Plan (2005)

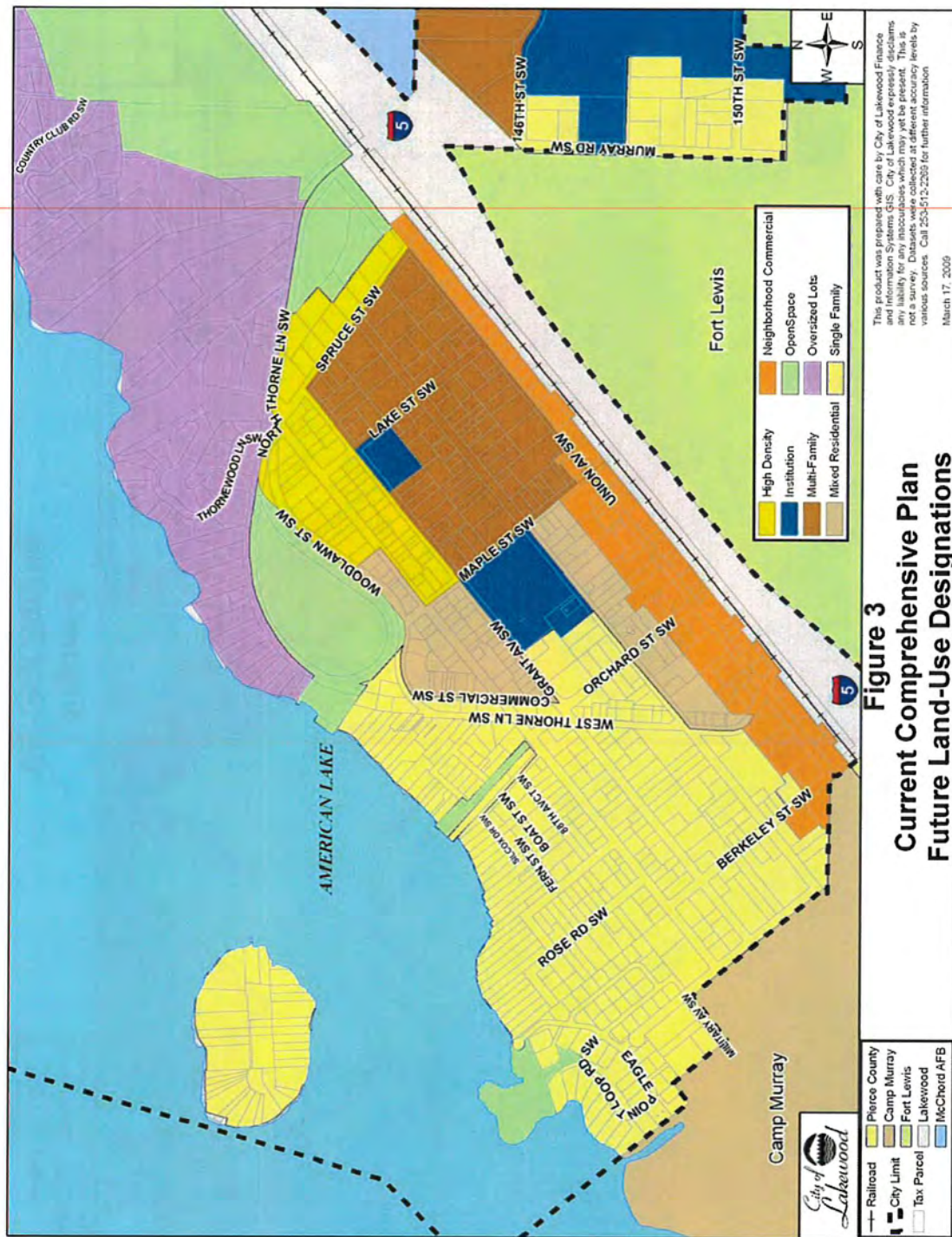
The Parks and Recreation Master Plan identifies improvements to Harry Todd Park in the amount of \$750,000. This amount is higher than what has been shown in the capital improvement program.

Recommended improvements include:

- Create a new perimeter paved pathway system
- Establish a disabled access route to the dock area
- Install a new bulkhead and shoreline improvements
- Develop an additional athletic field on the northeast corner of the park
- Construct a ropes course in conjunction with the Clover Park School District (CPSD)

Some of these planned improvements are depicted in **Figure 5** on page 17.

The master plan for citywide parks is currently being updated. Work on the "Legacy Plan," as it is now being called, is currently underway.



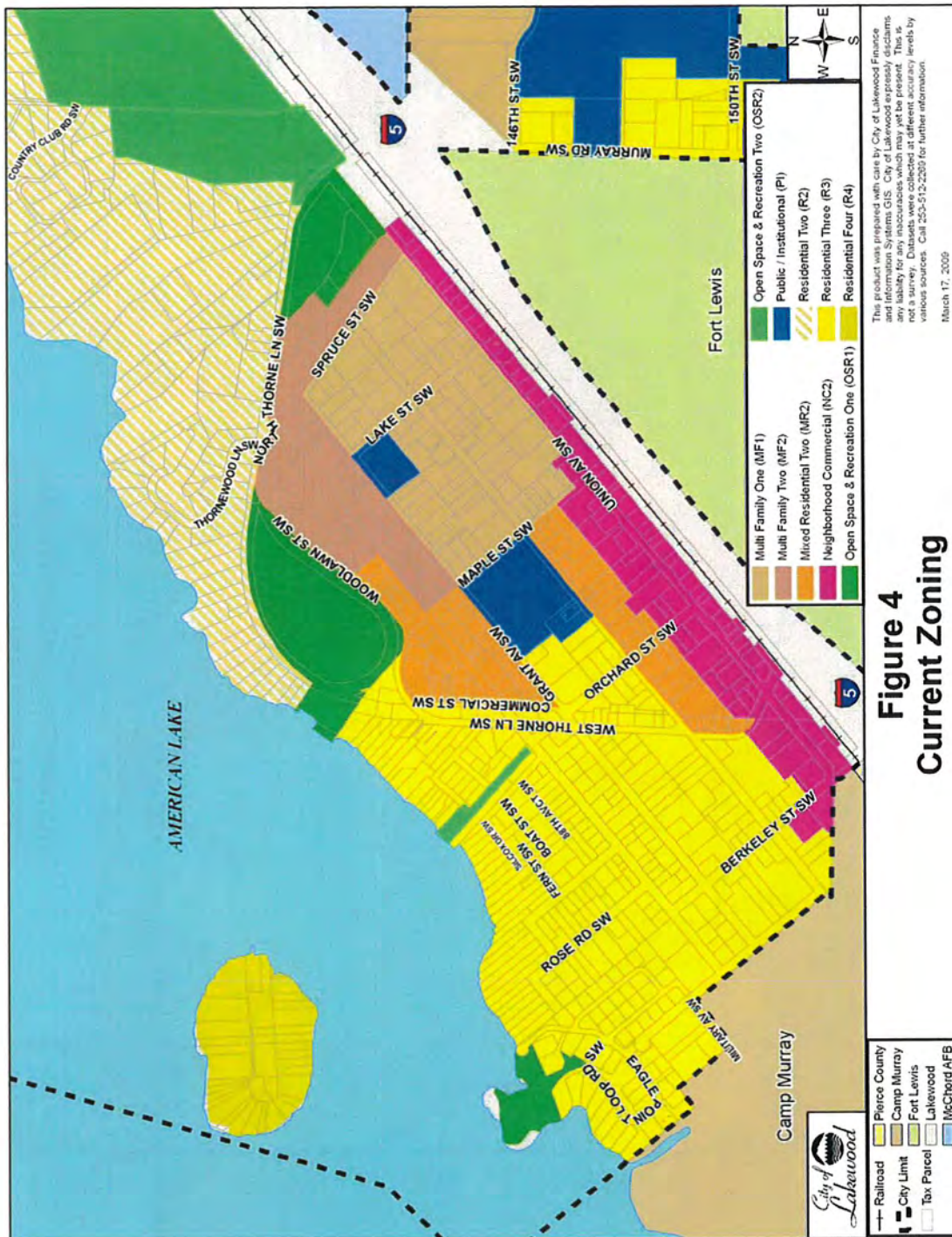
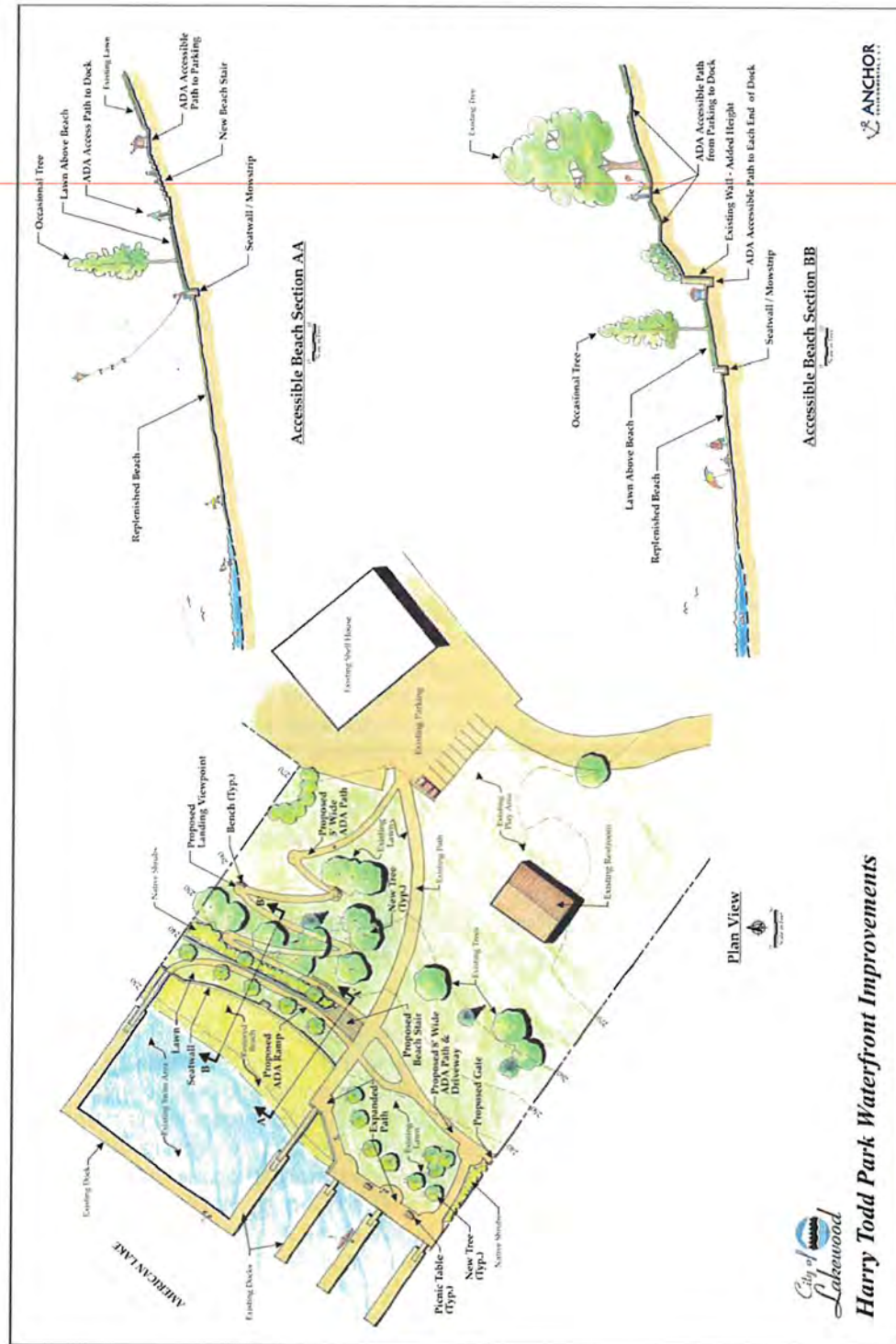


FIGURE 5



Progress! - A Vision for Tillicum (2007)

Tacoma-based BCRA, an architectural and planning firm, undertook a demonstration project that focused on finding new potential for Tillicum. The resulting *Progress! - A Vision for Tillicum* report was designed to act as a catalyst for redevelopment.

The *Progress!* report focused on strengthening some of the key community elements that make a neighborhood desirable and contribute to creating a sense of place. These initiatives were intended to spur new development and underpin home ownership, while increasing the overall security of the area. The report also included recommendations intended to provide additional housing opportunities by increasing residential densities in key locations; in turn, this would provide the necessary residential population to support local businesses and commercial activities. Other important purposes included protection of the natural environment, improved water quality, and creation of additional open spaces.

More than 200 people – homeowners, local merchants, CPSD, elected officials, City staff, representatives from the military, real estate brokers, developers, and the Tillicum/Woodbrook Neighborhood Association (TWNA, also known as “Community Matters”) – participated in either individual stakeholder interviews, neighborhood meetings, or completed a detailed opinion survey.

Key findings emerging from the survey results included:

- Almost 75 percent feel that Tillicum’s environmental features such as woodlands, open spaces, streams, wetlands, and shorelines are less than acceptable.
- Nearly eight of ten are open to change in the existing character of Tillicum.
- Eighty-eight percent dislike the appearance of the Union Avenue SW corridor.
- Eighty-two percent agree that a trail and sidewalk system should be developed for biking or walking between commercial areas, schools, parks, and other neighboring facilities.
- Seven of ten business owners and eight of ten homeowners say additional commercial property should be made available for professional and retail businesses.
- Ninety-one percent agree that the Union Avenue commercial area should be expanded beyond Union Avenue SW to accommodate retail uses.
- Among homeowners, protection of the natural environment is important to 86 percent.

In addition, consistent themes surfaced at public meetings. History and heritage were important values. The lack of sewers and other basic infrastructure were high on the list of concerns. Continued reduction of crime and an increased police presence were listed as an important service among homeowners. Those living in Tillicum were consistently concerned about the lack of goods and services for the residents. In fact, survey results showed that 94 percent of respondents buy the majority of their commercial goods outside of Tillicum. Absentee landlords and the lack of maintenance to the majority of the rental housing stock remains a significant issue. Preservation of an affordable mix of housing types is important to elected officials and City staff. American Lake and access to the waterfront for all residents of Tillicum was cited as an important feature. Lastly, residents expressed anxiety that as Tillicum redevelops property taxes would rise and that the availability of affordable housing would decrease to the point that they would be forced to relocate.

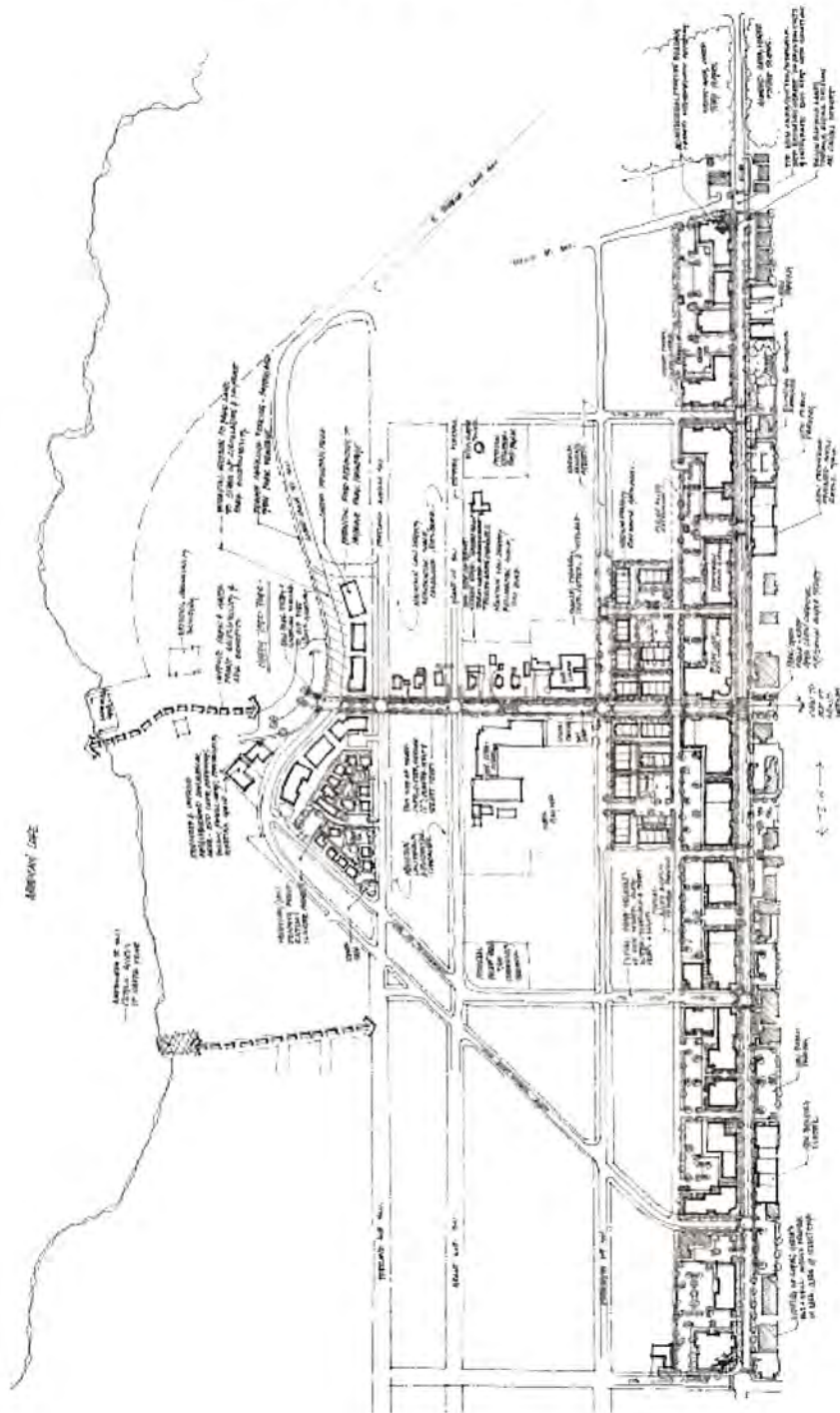
The *Progress!* document went on to develop wholesale redevelopment concepts for Tillicum that would dramatically change the community's face and function. Six initiatives were identified as keys to revitalization:

- Provide a Maple Street SW link, tying Union Avenue SW with Harry Todd Park.
- Develop a Union Avenue SW commercial/retail corridor including widening Union Avenue SW from 40 feet to 60 feet.
- Encourage multi-family development across from Harry Todd Park.
- Realign the Harry Todd park entrance.
- Establish gateways at either end of Union Avenue SW.
- Provide a pedestrian/bike path loop along Union Avenue SW, North Thorne Lane SW, Woodlawn Street SW, and West Thorne Lane SW.

Two concept designs were brought forward, shown in **Figures 6** and **7** on the following two pages. Such designs are not necessarily supported by the City's current comprehensive plan, zoning, or other plans and would require considerable redesignation and rezoning, public infrastructure investment, private financing, land assembly and physical redevelopment in order to carry them out.

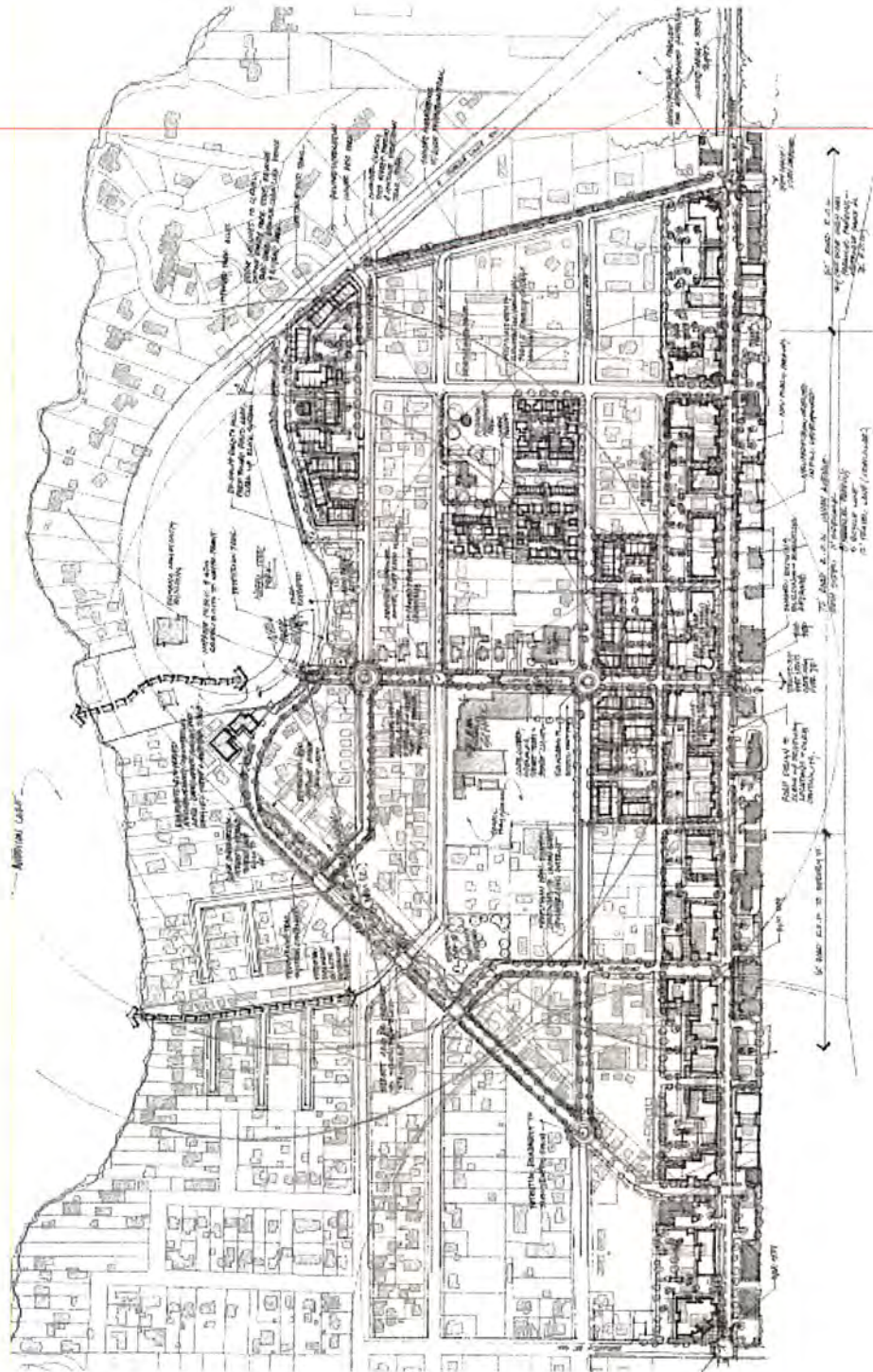
Because of the extensive public outreach connected to the *Progress!* project, many people believed this was a public planning process. However, BCRA was not paid nor subsidized by the City of Lakewood, Pierce County or any other outside agency or jurisdiction. Still, the project helped to create interest and to develop an impetus for the current City planning initiative. After reviewing the report, the Lakewood City Council adopted Motion No. 2007-16 on April 2, 2007, directing the preparation of a neighborhood plan for Tillicum.

BCRA CONCEPT DESIGN 1⁵



⁵ Source: BCRA. Used with permission; all rights reserved.

FIGURE 7
BCRA CONCEPT DESIGN 2⁶



⁶ Source: BCRA. Used with permission; all rights reserved.

New Home Trends Housing Market Study (2007)

In June 2007, the consulting firm of New Home Trends was retained by a group of private developers to analyze market trends for Tillicum. At about the same time, the City began developing the Tillicum Neighborhood Plan. When City staff discovered that this privately financed market conditions study had been commissioned, they asked to review the document and subsequently arranged to purchase the report, which is proprietary. The report provided information on housing sales trends, absorption rates and availability. Recommendations on potential commercial redevelopment opportunities were also included. Summary findings are listed below:

- Tillicum's reputation was found to restrict investment.
- Many of the problems that currently exist in Tillicum stem from a high percentage of absentee landlords and residential turnover of rental properties.
- The existing housing stock is reaching the end of its useful life.
- Price is and will be a motivating factor for any new sales in Tillicum until it can be proven that the area has turned around.

The report concluded that the creation of a middle class is crucial and that an influx in long-term home owners and business owners is needed. Their stake in the future character of Tillicum will drive additional redevelopment in the area. Extensive housing renovation is necessary in order to improve the urban image of the area and open new opportunities. Additional information about the New Home Trends housing market study is found under the economics section of this report.

Non-Motorized Transportation Plan (2008)

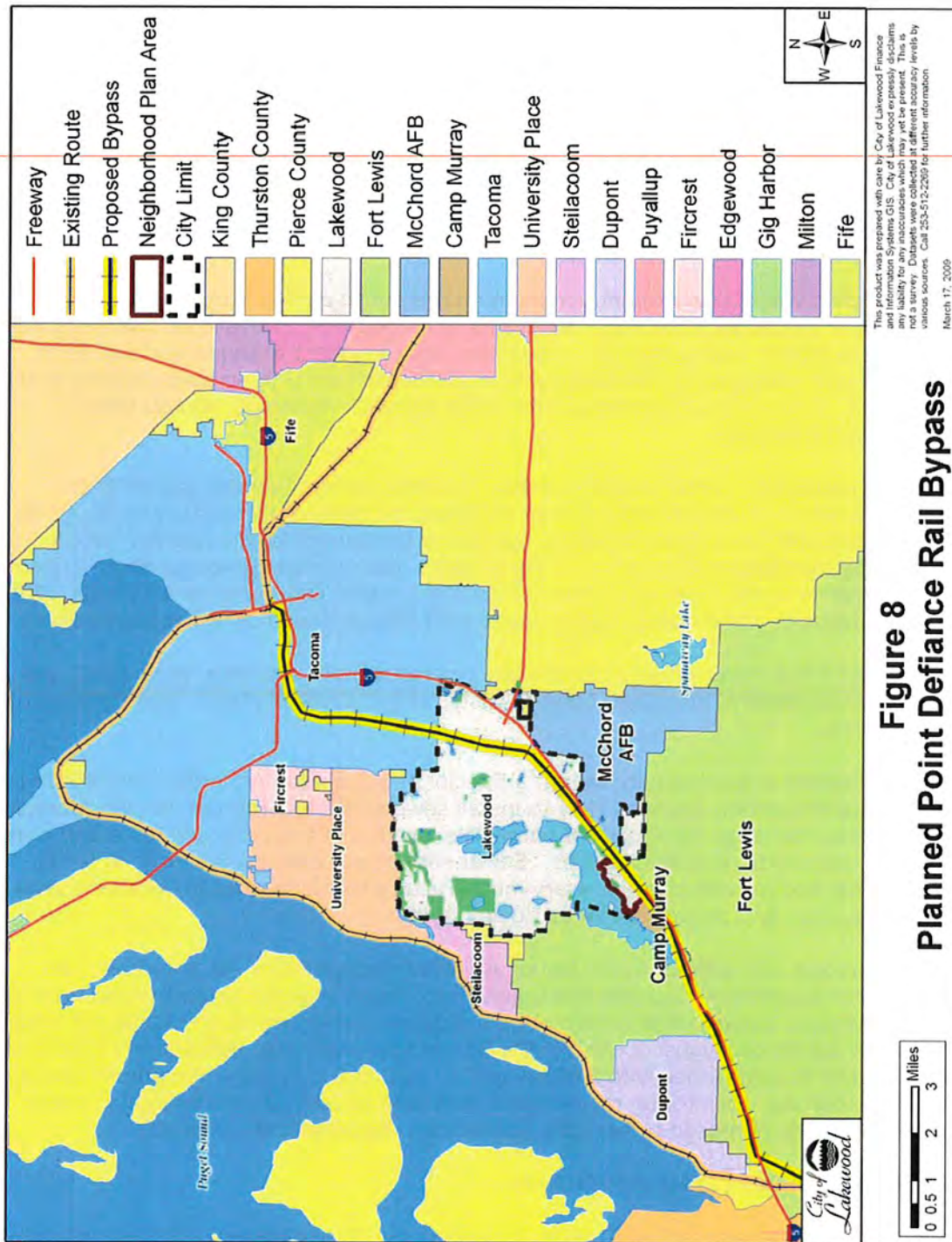
The Non-Motorized Transportation Plan (NMTP) is a legally mandated, citywide plan for pedestrian and bicycle systems. It somewhat parallels the Tillicum neighborhood planning process as it was released in draft form in late 2008 and was adopted in 2009, with amendments to the comprehensive plan to follow. It contains a number of recommendations relating to Tillicum but is responsive to its current form and not any change that may occur within the community. In the end, the NMTP, neighborhood plan, comprehensive plan, and any other related planning documents will need to achieve consistency.

Point Defiance Bypass

Trains, including Amtrak *Cascades*, currently must slow down due to curves and single-track tunnels on the BNSF main line tracks near Point Defiance and along Puget Sound to the west of Lakewood. The Point Defiance Bypass project, an initiative of the Washington State Department of Transportation (WSDOT) Rail Office, would reroute passenger trains to an inland route – the ST line⁷ located generally west of I-5 through Lakewood, bordering on the easterly boundary of Tillicum. It reconnects to the main BNSF line near Nisqually.

Figure 8 on the following page includes both the existing and proposed routes. Most freight trains will continue to use the line near Point Defiance and along Puget Sound. There is some current freight traffic (Tacoma Rail) on the ST line, which will remain unchanged by the project. Some improvements would need to be made to the ST line to facilitate this project, which is slated for completion in early 2015.

⁷ See Footnote 3.



Despite ongoing concerns expressed by the City about the project and its relationship to traffic and circulation, the project continues to move forward, bolstered by major federal funding provided to WSDOT in 2010 and 2011. The City is currently in negotiations with WSDOT and others about the project's impacts.

Tillicum/Woodbrook Sewer Extension

The state Growth Management Act (GMA) anticipates that all development within cities will be served by "urban" level services, which includes sewers as opposed to septic systems. While the majority of Lakewood is already connected to the Pierce County sewer system, Tillicum and Woodbrook remain unsewered. One of Lakewood's start-up priorities was to extend sewer service to unserved areas.

The City's Public Works Department conducted three public outreach meetings through August 2006 in preparation for sewer extension to Woodbrook and Tillicum. Surveys were also mailed to property owners whose properties were adjacent to the sewer extension project, and approximately 2,450 notices were mailed/delivered to persons residing in the affected area. A total of 123 people attended the outreach meetings, and 50 people responded to the surveys.

A variety of issues and concerns were raised. Property owners both on and off of the proposed alignment wanted more information about the costs of connecting to the sewer system. Would the City provide financial assistance to connect to the system? Would connection be mandatory or voluntary? Participants also wanted additional information on future extensions to the main trunk line construction, particularly process and costs. There were also questions about water quality issues with the continued use of septic systems.

The potential of the sewer project to stimulate redevelopment was also recognized; and residential displacement, increased housing costs, and increases in traffic and noise were also of concern.

The City of Lakewood successfully sought a Special Appropriation Act grant from the federal Environmental Protection Agency (EPA) to install sewers into the Tillicum and Woodbrook neighborhoods. On page 26, **Figure 9** shows the location of the proposed force and gravity mains and pump stations in these areas. Sewer service will address the issue of failing septic systems and provide the necessary infrastructure to economically revitalize these communities, thus improving the overall quality of life.

The sewer project was subject to the National Environmental Policy Act and SEPA. An environmental assessment was prepared, and it was found that the project would have no significant adverse impacts that could not be mitigated. A Finding of No Significant Impact (FONSI) was issued on August 1, 2007. The City of Lakewood also adopted the FONSI for its SEPA review in compliance with Section 197-11-630 of the Washington Administrative Code. Mitigation and monitoring measures to minimize adverse environmental impacts associated with the proposed project are contained in **Appendix B** (page 95).

Cross-Base Highway (State Route 704)

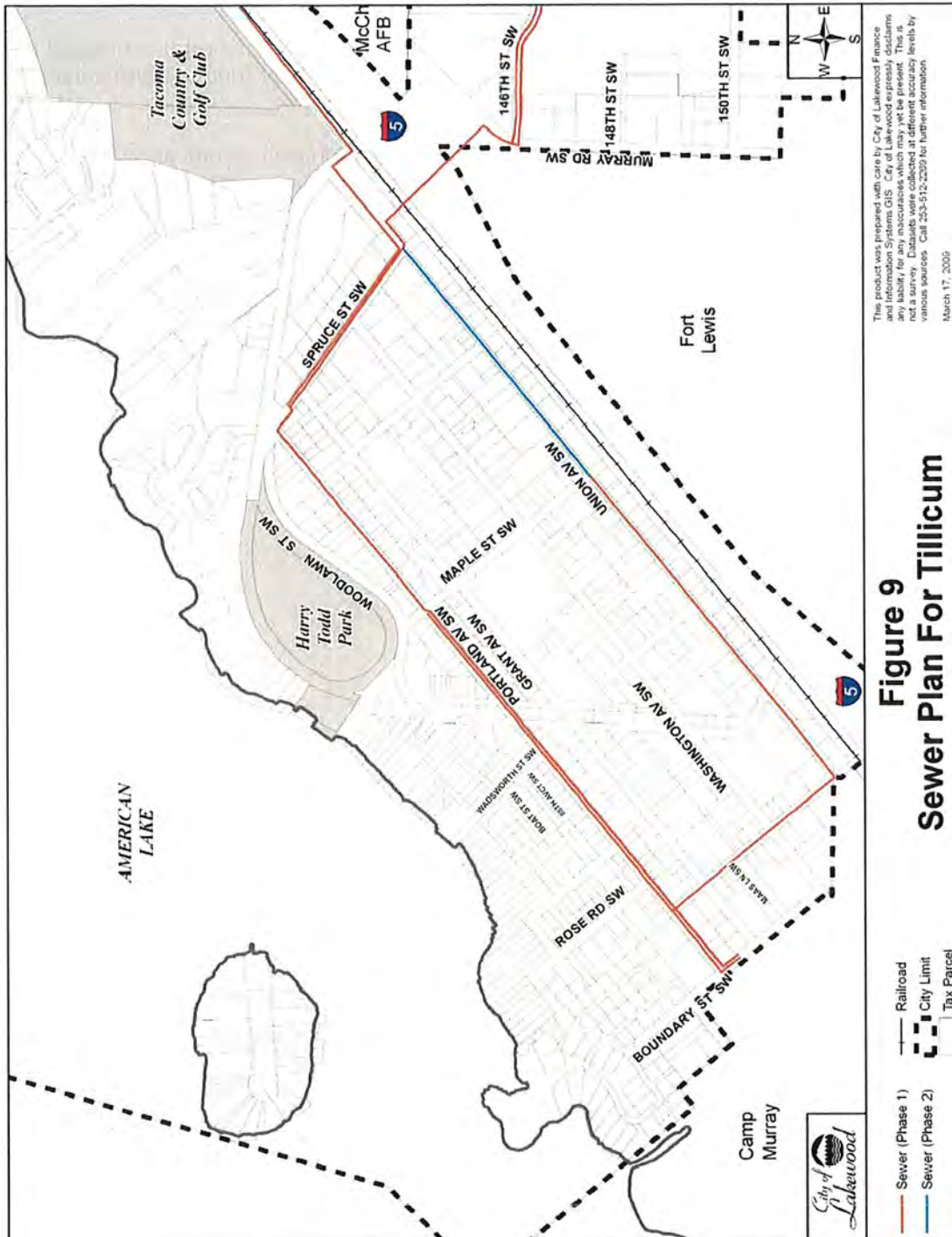
Washington State Department of Transportation's Cross-Base Highway (SR 704) will provide regional travelers with a new six-mile-long, multi-lane divided highway beginning at the I-5/Thorne Lane interchange at the west end, connecting to 176th Street at SR 7 at the eastern terminus. This new east-west route is intended to ease congestion on I-5, State

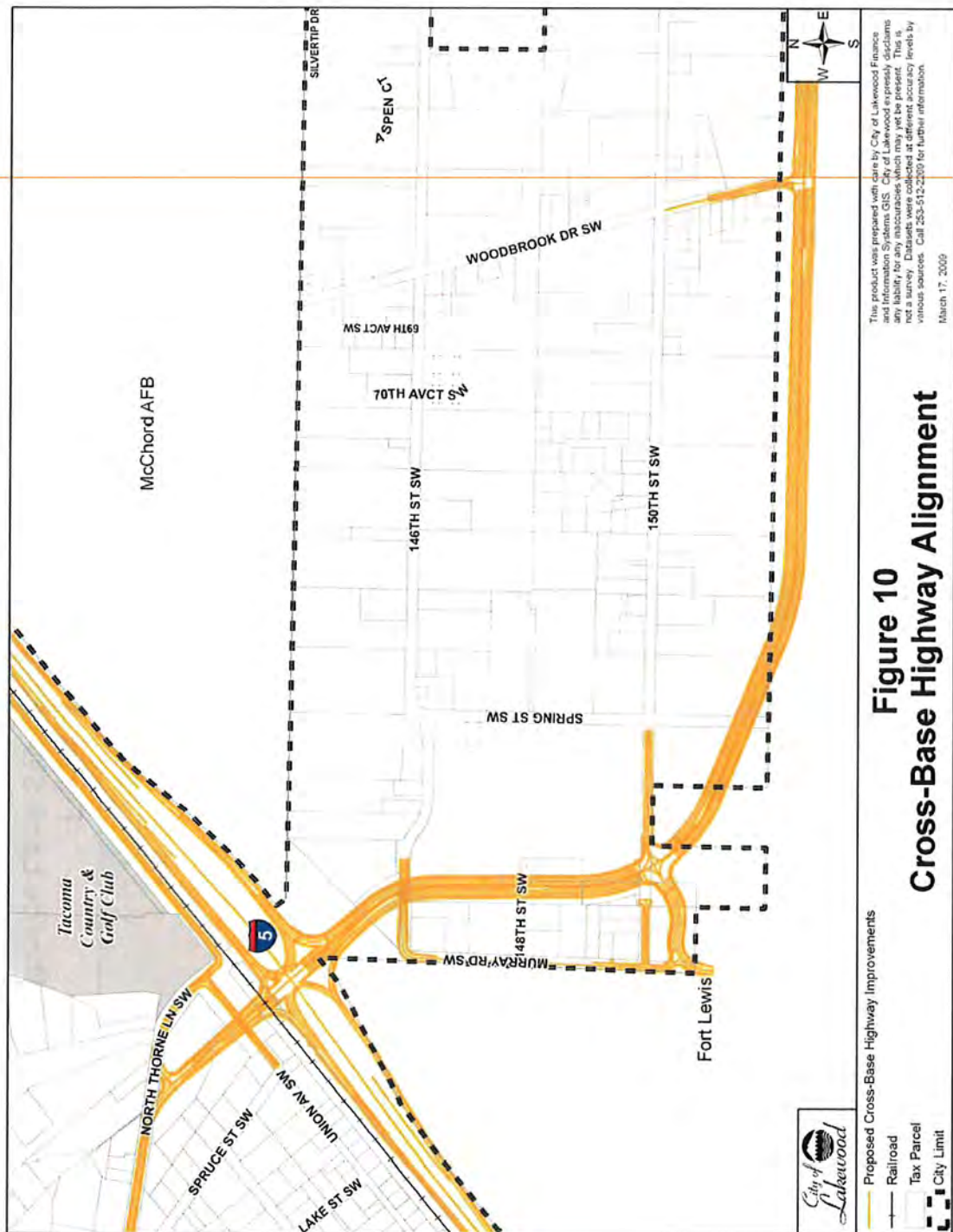
Routes 512 and 7, Spanaway Loop Road, 152nd/Military Rd., and 174th Street by providing a route through instead of around JBLM.

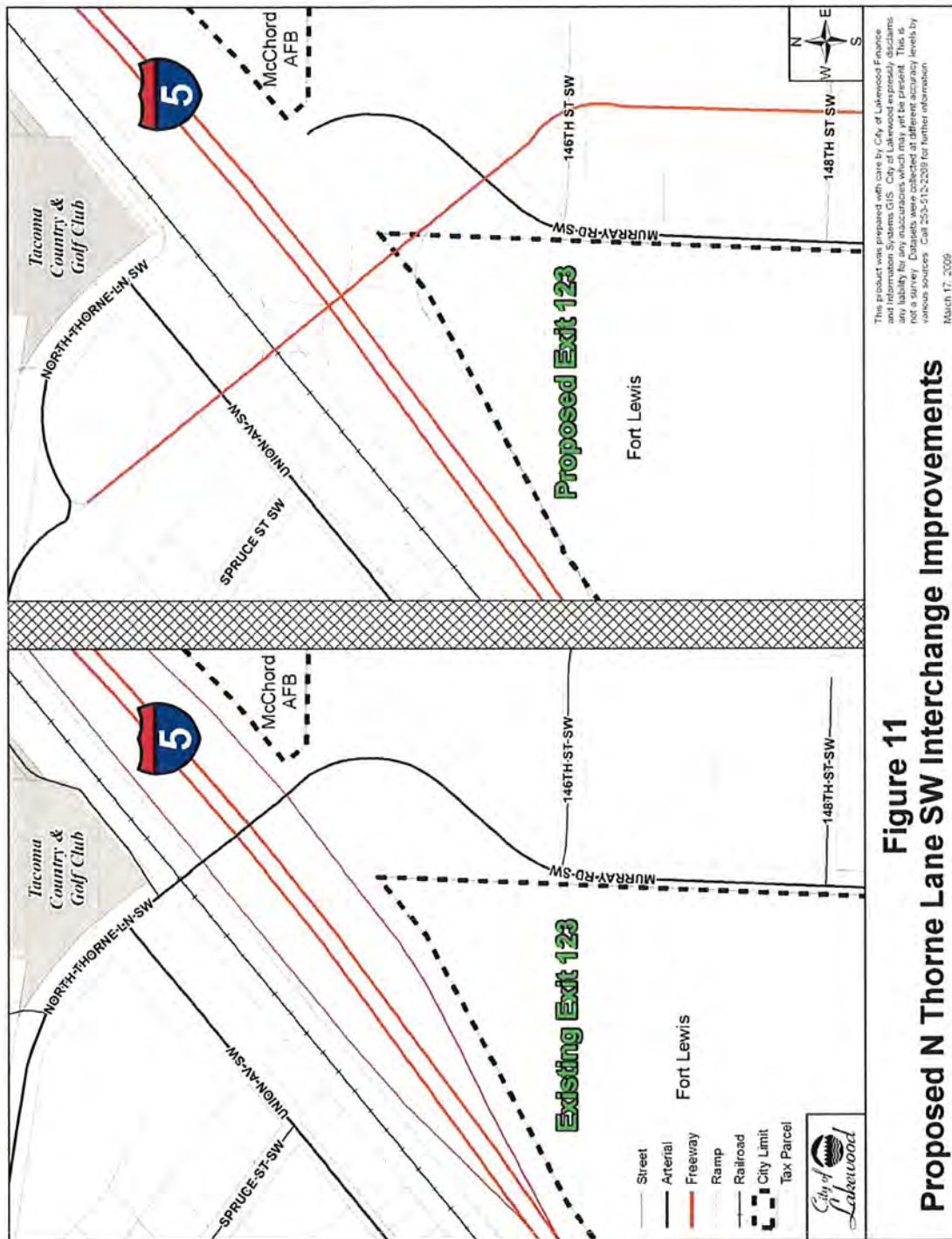
Environmental review and design are complete for the project, whose total estimated cost is \$453 million (based on 2006 dollars). The project is only partially funded, with construction having begun at the easterly end in 2008.

Specific to Tillicum, the highway project includes construction of a significantly larger and improved interchange at Thorne Lane SW that involves a new connecting road from Gravelly Lake Drive SW to Thorne Lane SW and construction of a roadway/railway separation at Thorne Lane SW. **Figures 10** and **11** on pages 27 and 28 show the highway alignment and Tillicum intersection improvements. However, this portion of the project is not currently funded, and it is unknown at this point when funds might be available.

In conjunction with the Cross-Base Highway project and also the joining of the former Ft. Lewis and McChord Air Force Base to create JBLM, the military has indicated it intends to pursue construction of a separate north-south alignment that would either go over or under SR 704. This would offer internal connectivity to the joined installations and may have some impact upon traffic in Tillicum as it could serve to change driver patterns. This project is still in the formative stages.







Capital Improvements

A key function of cities' long-range planning endeavors is to coordinate, from a financial planning perspective, the provision of public infrastructure and utilities. The City's comprehensive plan establishes policies to direct the development of the City's capital investment program in support of the community's vision for the future. It guides the actions of public agencies as well as private decisions related to individual developments. In recent years, as well as for the upcoming capital facilities planning period, Lakewood's capital investments focus on four primary projects: installation of a new sewer trunk line, upgrading the existing stormwater and water lines, and installation of new Americans with Disabilities Act (ADA) facilities at Harry Todd Park. The majority of this work began in 2009.

Estimated expenditures by project and funding source are listed below.

TABLE 1 ESTIMATED TILlicUM CAPITAL EXPENDITURES	
Main sewer trunk line	
Washington State Public Works Trust Fund	\$ 6,400,000
U. S. Economic Development grant	1,500,000
U. S. Environmental Protection Agency grant	600,000
U. S. Housing & Urban Development Community Block grant	250,000
City of Lakewood in-house design	700,000
Washington State Department of Commerce (formerly Community, Trade & Economic Development)	500,000
Total	\$9,950,000
Side sewer installation	
Public Works Trust Fund financial assistance program	\$ 1,000,000
Replace & upgrade existing stormwater system	
City of Lakewood surface water management fund	\$ 5,600,000
Water system upgrades	
Lakewood Water District	\$ 1,000,000
Harry Todd Park	
ADA improvements	\$ 500,000
Total expenditures	\$18,050,000

The cost estimate for sewer trunk line and stormwater improvements includes both the Tillicum and Woodbrook neighborhoods. Separate breakdowns have not been provided. Not included in this tabulation are the Tillicum intersection and roadway improvements associated with the Cross-Base Highway; this project falls outside the current six-year planning cycle.

Human Services Needs Assessment (2008)

A citywide human services needs assessment was conducted in 2008. The report listed Tillicum assets which included Woodbrook Middle School, Tillicum Elementary School, local churches, the Tillicum/American Lake Gardens Community Service Center, Community Health Care (operated out of the Community Service Center), Emerson Lake, American Lake, Harry Todd Park, the Lakewood fire station, and the active service organizations of TWNA and the Tillicum Merchants' Association.

Liabilities were also cataloged. The Tillicum/Woodbrook areas serve a population of 4,754. However, there are unique characteristics of this population that make it different from other Lakewood neighborhoods. Forty eight percent are non-English speaking, 78 percent of the total households are renter-occupied, and 90.9 percent of elementary children and 67.4 percent of middle school children are on free and reduced lunches. The report indicated a sharp increase in basic needs (food, shelter, health care) among residents; the Tillicum/American Lake Gardens Community Service Center responds to 20-30 requests a day for food and medical assistance. The lack of transportation to and from surrounding urban areas was also noted a significant problem. The number of single-parent households appears to be on the rise. Other challenges included:

- Lack of parenting skills⁸
- Affordable child care
- Early screening for disabilities and school readiness
- Increasing level of transience
- Youth with limited access to extended families or longer-term family-like relationships
- Lack of support systems that increase access to job opportunities
- Training skills that help reduce ongoing reliance on emergency and basic needs programs

Pierce County Library 2030 (2009)

Both the Tillicum and Lakewood libraries are part of the Pierce County Library System (PCLS). The PCLS has developed a master plan for its facilities over the next 20 years. This plan forms a basis for facility improvements, including new buildings and renovations to or replacements of library branches. The goal is to provide libraries that are conveniently located, appropriately sized to meet the needs of growing and changing communities, and appropriately designed to accommodate changing technology. As part of this process, the PCLS has evaluated the future of the Tillicum library as well as all its other sites and will use its findings to support financing.

⁸ The Tillicum focus group identified life skills and specifically parenting skills as essential.

FIGURE 12
PCLS LIBRARY AT TILlicum/AMERICAN LAKE GARDENS
COMMUNITY SERVICE CENTER



Camp Murray Site Development Plan (2010)

The Washington State Military Department retained a consultant to carry out a master plan for Camp Murray, including such things as identifying the placement of new buildings on the site and realigning some functions within different facilities. For the most part, these improvements would take place inside the fence and bear little or no relationship to the Tillicum neighborhood. However, one proposal – the relocation of the main access gate to Berkeley and Portland Avenue – would be extremely likely to change where traffic associated with Camp Murray travels within Tillicum. City staff, elected officials, and concerned neighborhood residents worked with Camp Murray officials throughout much of 2010 to arrive at a more desirable option. However, this proposal was extremely controversial; there does not appear to be an easy means of distancing Camp Murray's main entrance from Berkeley interchange congestion and the ST line without impacting Tillicum residents. Camp Murray worked on a draft environmental assessment under the *National Environmental Policy Act* (NEPA), but a final environmental assessment has not yet been issued. Communication remains open between the City and Camp Murray officials.

Neighborhood Stabilization Program (NSP)

Washington State, through the Department of Commerce, was allocated over \$33 million (\$28 million as part of NSP1; \$5 million from NSP3) in federal funding to establish and implement a state-level NSP. The purpose of the NSP is to acquire and redevelop foreclosed properties that might otherwise become sources of abandonment and blight within their communities. In turn, the Department of Commerce awarded Lakewood \$626,793 in NSP1 funding in December 2008 and \$640,000 in NSP3 funding in 2011. Of the total \$1,266,793 awarded the City, \$1,010,523 was allocated for redevelopment of foreclosed or abandoned properties for the purpose of providing low-income housing, with the remaining \$192,930 allocated for the removal of slums and blight. To date, the City has partnered with Habitat for Humanity to acquire two foreclosed residential properties in Tillicum, with which it intends to construct up to eight low-income, single-family residences; and is in the process

of abating nine blighted properties, three of which are located in Tillicum. City staff is in the process of identifying additional properties that may be eligible for participation in the NSP3 program; multiple properties in Tillicum are being evaluated for redevelopment based upon program compliance and overall project feasibility.

THE STATE OF THINGS

Who Lives Here?

In order to understand a neighborhood's needs, it is first necessary to understand the people who live there. A neighborhood's demographics, or the characteristics of its people such as age, race, gender, and economic means, help to make up the neighborhood's identity. The information that follows about Tillicum demographics is written in present tense so it will appear as though this is current information, but it is not. Except for schools information, all demographic data is based on the 2000 Census, which in turn asks people about the previous year; so it is quite outdated at this point. The 2010 federal census data is not yet available at this level of detail so will not be timely for this plan's adoption.

Tillicum is part of Census Tract 720 for data reporting purposes. Census Tract 720 includes not only Tillicum but also Woodbrook, Silcox Island, and a portion of Camp Murray; so *the data contained here represents that entire area*. For the purposes of this report, though, it is generally referred to as "Tillicum." Census percentages are rounded.

Race

Of the 4,754 residents living in Tillicum and the surrounding area, about 65 percent is white. About 15 percent is black or African/American, three percent is American Indian or native Alaskan, three percent is Asian, and one percent is native Hawaiian or Pacific Islander. Additionally, four percent identified themselves as some other race; and a total of nine percent identified themselves as being of some combination of multiple races. Over 90 percent are native citizens, with 161 foreign-born, naturalized citizens and 250 foreign-born, non-citizens.

Age

The population is split roughly evenly between men (2,329) and women (2,425). A total of 551 children is under age five, and 1,109 are school-age (through age 19 in census categories). A total of 30.7 percent of the population is children through age 18. The greatest percentage of population is concentrated between ages 22 and 54, slightly more than 49 percent. Seniors (62 and older) make up about 6.5 percent of the population.

Comparatively, within Pierce County as a whole 27.2 percent of the population is children, 62.6 percent is between the ages of 18 and 64, and 10.2 percent is age 65 and older. From among the 158 census tracts in Pierce County, Tillicum ties for 35th place in having the most children living there.

Households

There is a total of 1,954 households in the area, and the average household size is 2.43 people. This is less than the Pierce County average of 2.6 people. A small percentage (under four) of households consists of a single person, while most households (69 percent) contain two or more people. Over 21 percent of these (417) are single-parent households with children under age 18. The majority of these (343) are single mothers. Almost 60 percent of the households have no children under age 18. The unmarried-couple households are about evenly split between households having a female householder and male partner, and having a male householder and female partner. There is also a small percentage having roomers, boarders, roommates, or some other kind of unrelated housemate.

Within Pierce County as a whole, 35.9 percent of all family households have children under age 18, and Tillicum comes in just slightly higher at 37.5 percent.

Families

There is a total of 1,143 families in the area, and the average family size is 3.03 people. Only about half of these (54 percent) report themselves as being married-couple families, while the remainder is made up of other family including single-parent families. Of the married-couple families, almost 94 percent have children under age 18.

**TABLE 2
MARITAL STATUS**

Category	Men	Women
Never Married	609	544
Married	738	733
Separated	101	125
Widowed	9	66
Divorced	269	306

Housing

Of a total 2,189 housing units⁹, 1,954 units are occupied and 235 are vacant. However, only 421 units are owner-occupied; the area is dominated by rental housing at almost 79 percent, or 1,533 units. Of the vacant units, the majority (155) are rentals as well. When considering the number of people within those housing units, the number of people within rental housing is slightly higher, at 79.2 percent. Families living in rental housing outweigh families living in owned housing by more than three to one.

Comparatively, within Pierce County as a whole almost 64 percent of the housing units are owned, with 37 percent rentals. From among the 158 census tracts in Pierce County, only nine have more rental housing than Tillicum. The median gross rent per month is \$481, with most people paying between \$300 and \$549.

Some owner-occupied housing was surveyed regarding value and housing costs. The median mortgage cost, which includes certain other costs, of homes with a mortgage is

⁹ See Footnote 4.

\$781 per month. The median percentage of household income represented by these housing costs is 25.3 percent. The median value of owner-occupied homes is \$89,200, compared with a median value of \$147,600 for Lakewood as a whole and \$149,600 for Pierce County as a whole. This undoubtedly correlates with housing age, at least to some extent; the median year in which owner-occupied homes in Tillicum were built is 1959 (1966 for rentals).

Work

Of a total population age 16 and older of 3,419, 2,089 persons are in the labor force. The majority (1,923) is in the civilian labor force, with a 16.5 percent unemployment rate in that group. This is slightly higher (17 percent) for females versus males (16.1 percent). Of those who are employed, the vast majority is between ages 25 and 54 whether male or female. Most work within Pierce County, but about 14 percent work outside Pierce County or even out of state. The mean travel time to work is about 26 minutes, implying that even those who work within Pierce County do not work within the immediate area. Only 166 persons in the area are in the armed forces, which is notable given the area's proximity to the military bases.

Income & Poverty

The annual median income for all households in Lakewood is \$36,422, which increases to \$52,461 when considering married-couple families and drops to \$20,376 for female householders without a husband. Within Tillicum, the median income for all households is only \$21,853, increasing to \$38,317 for married-couple families and dropping to \$13,089 for female householders without a husband. From among the 158 census tracts in Pierce County, only five census tracts have a lower median income level than Tillicum. Additional income data is included in the Economics section of this report.

TABLE 3 INCOME & POVERTY				
Income below poverty level	All ages	Children	Seniors	Families
Pierce Co.	10.5%	13.2%	7.2%	7.5%
Census Tr. 720	37.0%	49.2%	0.0%	34.2%

The number of males in poverty (1,793) outweighs females in poverty (1,037). Poverty rates by age are disproportionately visited upon male children. There are a total of 1,104 males through age 17 living in poverty, while only 411 females. Female poverty shows a more even spread which is concentrated at ages 18 through 64.

Disability

Even though it might be expected that seniors would represent the highest number of persons with disabilities overall, the age of persons having disabilities within Tillicum focuses on the working-age group.

TABLE 4 DISABILITY				
Disability by Age Group	Age 5-15	Age 16-20	Age 21-64	Age 65+
Male	40	13	359	63
Female	43	78	366	54
Total	83	91	725	117

Veteran Status

There are 753 civilian veterans age 18 and older within the area. About a third of these are Vietnam-era veterans, with about another third who are Persian Gulf War-era veterans.

Overall Education

The greatest percentage of people in Tillicum have only a high-school education (36 percent). This is followed by 16.3 percent having completed 9th to 12th grade but with no diploma, and 15.3 percent having completed one or more years of college but with no degree. Only 9.2 percent of people in Tillicum have completed a bachelor's degree or higher. This profile appears to be roughly proportionate between males and females. The highest percentage of males having a bachelor's degree or higher is between 45 and 64 years of age, while the highest percentage of women is between 35 and 44 years of age.

Children's Education

The information that follows is based on the most recent "report card" for schools produced by the Office of the Superintendent for Public Instruction, and those of previous years.

In May 2009, there were 12,210 students in CPSD, 364 (3 percent) of them at Tillicum Elementary and 509 (4.2 percent) at Woodbrook Middle School. Although Tillicum is the smallest elementary school in the district, it has the highest concentration of poor children as evidenced by its inordinately high free and reduced-price meal rate.

TABLE 5 POVERTY: STUDENTS WHO QUALIFY FOR FREE AND REDUCED-PRICE MEALS	
Free/Reduced-Price Meals (May 2010)	% of students
Statewide Aggregate	42.3%
CPSD Aggregate	63.9%
Tillicum Elementary	93.4%
Woodbrook Middle School	75.8%

- The free/reduced-price meal rate at Tillicum Elementary is 51.1 points greater than the statewide average and 29.5 points greater than the district-wide average.
- The free/reduced-price meal rate at Woodbrook Middle School is 33.5 points greater than the statewide average and 11.9 points greater than the district-wide average.
- The free/reduced-price meal rate throughout the CPSD is 21.6 points greater than the statewide average.

- All rates have been updated through the course of this plan's development as new data becomes available. Although trend data is not included, the rate has generally been trending upward; although the 2010 rates show a lesser gap between CPSD and individual school rates and the statewide average, which has also increased as the economy has slumped.

What does this data show? Children throughout the CPSD are more poor than those elsewhere in the state. Both grade-school and middle-school age children in Tillicum are more poor than those elsewhere in the district and elsewhere in the state. Hunger and poor nutrition, which often accompanies poverty, are known to be impediments to student readiness to learn. Considering that as a measure, Tillicum students are likely to be profoundly less ready to learn.

TABLE 6 COMPARISON OF WASL SCORES¹⁰ – 2009-10				
Reading	State Aggregate	CPSD Aggreg.	Tillicum Elem.	Woodbrook MS
4th grade	67.2%	50.3%	44.7%	NA
7th grade	63.4%	49.0%	NA	46.4%

TABLE 7 WRITING				
Grade level	State Aggregate	CPSD Aggreg.	Tillicum Elem.	Woodbrook MS
4th grade	61.1%	45.8%	36.8%	NA
7th grade	70.3%	58.7%	NA	56.4%

TABLE 8 MATH				
Grade	State Aggregate	CPSD Aggreg.	Tillicum Elem.	Woodbrook MS
4th grade	53.7%	42.4%	39.5%	NA
7th grade	55.3%	45.5%	NA	35.7%

TABLE 9 SCIENCE				
Grade	State Aggregate	CPSD Aggreg.	Tillicum Elem.	Woodbrook MS
5th grade	34.0%	20.4%	13.0%	NA
8th grade	54.5%	31.6%	NA	27.5%

What does this data show? Neither elementary nor middle-school children in Tillicum can read, write, or do math or science as well as others, either within the district or across the state. Similarly, both elementary and middle-school children throughout the CPSD cannot read, write, or do math or science as well as others across the state.

¹⁰ For test scores, percentages = percent meeting standard.

TABLE 10 TILLICUM ELEMENTARY SCHOOL WASL SCORES OVER TIME				
Year	Reading	Math	Writing	Science
2009-10	44.7%	39.5%	36.8%	13.0%
2008-09	55.8%	18.6%	53.5%	23.4%
2007-08	60.0%	33.3%	46.7%	11.8%
2006-07	64.3%	23.8%	31.0%	2.4%
2005-06	53.7%	31.7%	31.7%	16.0%
2004-05	58.7%	41.3%	43.5%	24.3%
2003-04	39.5%	26.3%	34.2%	19.3%
2002-03	64.7%	48.5%	38.2%	--

TABLE 11 WOODBROOK MIDDLE SCHOOL WASL SCORES OVER TIME				
Year	Reading	Math	Writing	Science
2009-10	46.4%	35.7%	56.4%	27.5%
2008-09	41.3%	21.0%	56.9%	24.1%
2007-08	58.7%	37.0%	64.7%	28.3%
2006-07	58.1%	32.9%	53.8%	20.6%
2005-06	43.7%	27.0%	54.3%	17.9%
2004-05	57.9%	27.9%	41.1%	14.2%
2003-04	46.3%	26.3%	45.9%	14.4%
2002-03	40.7%	23.9%	41.6%	17.2%

Tables 10 and 11 demonstrate that, prior to 2008-09, there generally had been a trend of improvement in scores across the board at Woodbrook Middle School. So while scores may not compete favorably with the district as a whole or statewide, it appears to be a situation that was incrementally improving. Tillicum Elementary is, however, a different matter. As may be seen from the data, some years the scores go up, some years the scores go down. This data may be reflective of the nature of the Tillicum and Woodbrook neighborhoods which feed into these schools, where many students come and go. With a stable student base, one might expect to see a clear trend in scores. Uncertain score levels such as these might indicate an unstable student base, although there is nothing to prove this inference.

What Does All This Mean?

Tillicum's population is largely white and working-age, but at the same time is educationally and economically limited. People living in Tillicum do not make as much money as people living in Lakewood as a whole, or within Pierce County. The area has poor housing values and a very large rental rate, which implies that even with low housing prices people still cannot afford to buy homes. The percentage of people living in poverty, and especially the percentage of children living in poverty – almost half – outstrips the Pierce County average. At the same time, the area has more children than about two-thirds of the rest of Pierce County's census tracts – keeping in mind this may not represent two-thirds of the population or land area. Combined with the poverty rate, this sets up these children for the potential of poverty.

Students living in Tillicum are economically limited and have a greater chance of failing at education. Educational limitation often means a lack of success and limited income potential as adults. Poverty has a relationship to crime and the potential of young people to turn to crime to improve their economic circumstances.

Physical Conditions & Influences

Tillicum functions as a small, separate village within Lakewood. Accessible only by freeway ramps at the north and south end of the area, it has its own commercial corridor, moderately dense residential development, an elementary school, a library, and a park. In terms of its development patterns, Tillicum is a very walkable neighborhood with a tight street grid and relatively low speed traffic (although there exist few sidewalks). Harry Todd Park is one of the largest City-owned parks, and Tillicum is one of the few neighborhoods in the city with public waterfront access.

Heritage & Landmarks

Tillicum was first platted in the early 1900s. The first permanent families arrived in 1910; they offered eating and sleeping accommodations for those who came to enjoy American Lake. Tillicum's early history indicates that the community was known for its social and recreational attractions. The Pacific Traction Company, which ran a street car system from South Tacoma to what is now Lakewood, brought visitors to enjoy American Lake and other social activities. The streetcar terminus is evident in Tillicum today based on the alignments of North Thorne Lane SW, West Thorne Lane SW, Union Avenue SW, and Harry Todd Park.

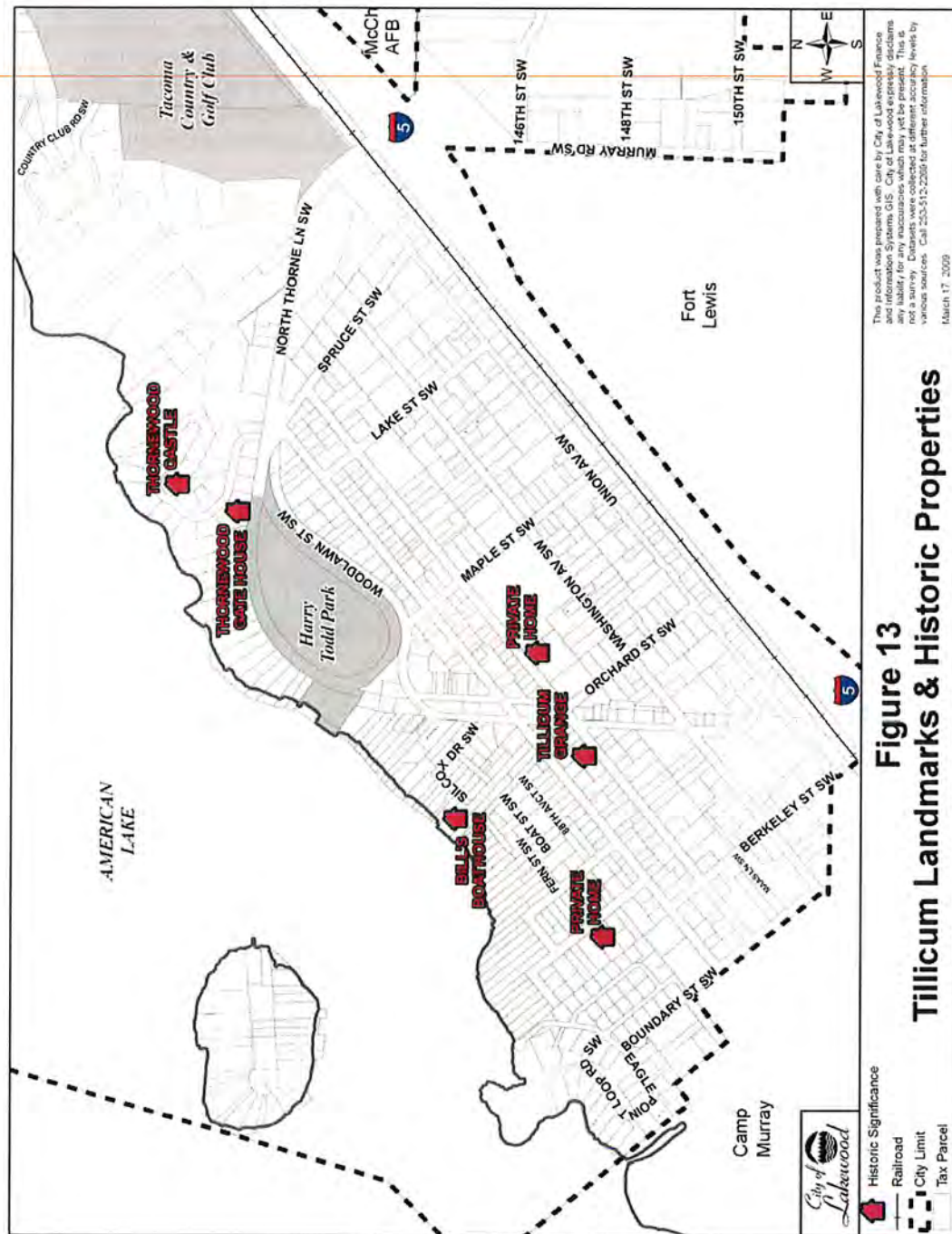
In 1917, Pierce County donated adjoining lands to the U.S. Army for the construction of Camp Lewis, until recently known as Ft. Lewis. The Army's need for housing was a major factor in the development of Tillicum. In fact, housing was at such a premium during both world wars that people lived in tents covered with tar paper.

Thornewood Castle is located at the north end of Tillicum. Built in 1908 by Chester A. Thorne as a single-family residence, Thornewood Castle is 27,000 square feet in size with 54 rooms, 22 bedrooms, and 22 baths designed in the Gothic Tudor style. The mansion is the only one of its kind on the West Coast. Its construction took place from 1908 to 1911. The structure is built of concrete and steel with a brick exterior and oak paneling, an oak staircase, and stained glass interior finishings which were imported from a 15th-century English mansion. Other interior furnishings were imported and previously owned by an English duke. Thornewood has been restored as a country inn and is privately owned and operated as a bed and breakfast and venue for weddings and other events.

Bill's Boathouse on American Lake was once Garrison's Swimming Resort, which was used for dances and special events. In 1945, the resort was sold and then renamed as Bill's Boathouse. Since then, it has belonged to the Anderson family and has been used to restore classic boats, motors, and cars, which are currently displayed there.

Tillicum Grange (Community Center) on Grant Avenue was built on Ft. Lewis in 1917 and moved to Tillicum in 1922. During the pre-World War II period, the grange was the dance center. It was a popular community gathering place that people described as having the best dance floor in the nation. The dance hall was later converted into a skating area. Today, it is privately owned by K.H. Rowe.

Historically significant properties and landmarks located in Tillicum are tagged in **Figure 13** below. Some of these are designated historic register sites while others just possess strong community identity.



American Lake

Both historically and today, Tillicum bears a strong relationship to American Lake. Bill's Boathouse is not just a community icon but continues to provide recreational opportunities on the lake. The nearby Wadsworth St. SW street end is used as a "jumping-off point" for residents of Silcox Island, many of whom keep their boats and vehicles there and use it as a sort of ferry landing when traveling to and from their homes. American Lake sees a myriad of users, including swimmers, both motorized and non-motorized boats and other waterborne recreational vehicles, water skiers, seaplanes, and rowing teams. The University of Puget Sound's men's and women's crew teams row on American Lake and share the boathouse with Pacific Lutheran University and the Commencement Bay Rowing Club, which owns the structure.

FIGURE 14
COMMENCEMENT BAY ROWING CLUB BOATHOUSE



Harry Todd Park

Yet another unique feature of Tillicum is Harry Todd Park. The park is about 17 acres in size, the greater part of which was a gift to the City of Tacoma by the Keystone Land and Investment Company for a public park and playground. E.I. Gregory, William Delivier and Charles Reeves were the principal share holders and directing officers of the company in 1914. At that time, the Metropolitan Park District acquired title to the park shoreline to ensure it remained accessible to the public for their enjoyment of the park facilities. Some

may also remember Harry Todd Park as Bona Park. Harry M. Bona was influential in Tillicum's history, and the park was originally dedicated in his name on July 4, 1953. However, the park was later renamed upon the passing of Harry Todd, who made significant donations to the park's improvement. The park remains an important piece of the foundation of Tillicum and is considered a space that contributes to the quality of Lakewood's urban environment. It is the public gateway to American Lake for the Tillicum residents.

FIGURE 15
HARRY TODD BOAT DOCKS



Utilities

Water: The Lakewood Water District provides water service to the Tillicum community. The water district and the City rely on groundwater from the Central Pierce County Aquifer System and the underlying Chambers/Clover Creek Basin for its water needs. This same aquifer serves several neighboring communities. Pumping capacity is determined by groundwater rights.

Storm Drainage: Currently, Tillicum is not served by a comprehensive system that collects, conveys, treats, and discharges storm water. Instead, there is a limited drainage system that serves portions of the existing streets. The existing drainage system includes catch basins, dry wells, perforated pipes, and storm drain pipes. The age, condition and functionality of the existing system vary. Where possible, storm water infiltrates through existing sections of perforated pipe and dry wells. Locations served by catch basins and storm drains discharge to the ground. Some storm water discharges through existing outfalls to American Lake, including that conveyed via drainage ditch through Tillicum during high flow events.

Sewer: Through the early 1970s, sewer service was not provided in the area that is now within Lakewood. Up until that point in time, the Lakewood community relied entirely upon the use of on-site septic systems. However, the septic tank discharge was polluting underground aquifers which were also Lakewood's water supply. Pierce County proposed a Utility Local Improvement District (ULID) in which property owners would be assessed a share of the cost to provide sewers. The ULID was submitted to property owners in the form of a public vote, which failed. In 1971, the state Department of Ecology issued a violation notice requiring that Pierce County implement the ULID. Pierce County went on to unilaterally develop what was known as ULID 73-1, and sewer lines were installed in most of the Lakewood community, except for small pockets located on the west and east sides, in addition to all of the Tillicum and Woodbrook neighborhoods.

Sewers were not installed in Tillicum and Woodbrook for a variety of reasons. Tillicum's topography presented unusual engineering design considerations. Another issue was these communities' isolation and their proximity to existing military installations. It was assumed that Ft. Lewis would provide sewers given the location of a major trunk line in Woodbrook; however, no formal commitments were ever made, and it was later shown to be infeasible. Tillicum and Woodbrook were also outside the aquifer basins of immediate concern and had relatively low development densities.

Instead of extending sewer service to these communities, development in these areas was subsequently restricted. Permitted development densities were lowered to two dwelling units per acre, and on-site septic systems had to be engineered based on site and soil conditions. However, development prior to this time was not restricted in either development densities or by engineering criteria; existing development densities in many areas exceed two units per acre and many, if not all of, the existing septic systems predate the more stringent requirements.

When Lakewood incorporated in 1996, Tillicum became a part of the incorporated area. The City then began trying to address the issues resulting from the lack of sewer, the community's isolation, undervalued properties, and high crime rates. With adoption of the City's comprehensive plan, policies were established to provide sanitary sewer in Tillicum and Woodbrook. Thereafter, the City began the process of assembling funds through grants and sewer surcharge on the whole of the City to construct new infrastructure.

During in the development of both the City's comprehensive plan and the BCRA *Progress!* project, Tillicum emerged as a neighborhood having significant potential for residential growth over the next 20 years. Given its location and assets, there is an opportunity for Tillicum to evolve into a more urbanized, pedestrian-oriented community. A significant constraint in realizing this vision is the lack of sewers in Tillicum. Design, funding, and environmental review for new sewer service to Tillicum and Woodbrook has been completed, and construction began in 2009.

Redevelopment of Tillicum's commercial areas and housing will not be possible until sewer connections are available – *and, very importantly, there is enough flow generated to initiate service.* Even with the infrastructure complete, service initiation is dependent on achieving a sufficient number of connections and flow to enable the system to be turned on. The financial incentive programs initiated and marketed during 2010 did not attract a sufficient number of connections. In October 2010, the City Council reviewed the status of main sewer line and side sewer construction in Tillicum and Woodbrook and the deferred and low-interest sewer loan programs. These reviews spurred an interest in reconsidering the voluntary connection policy which had earlier been decided upon.

As a result of this discussion, the City Council began looking at making sewer connections mandatory. Two alternatives were considered, "low flow" and deferral.

The "low flow" option presumed that all properties to which sewer service is available would connect and/or pay sewer service charges. The option assumed that the sewer service charges would be remitted to the County and that the funds would be used to service the system, which would necessitate system flushing if the required flow is not met. It is anticipated that connections to the sewer system would occur more slowly under this option than under the deferral option. "Low flow" property owners who pay monthly sewerage charges could continue to use septic systems until those septic systems fail, the property is sold to a new owner, or the use of the property changes.

Under the deferral program, connections are mandatory, but the property owner must seek or qualify for a deferral if they do not immediately connect to an available sewer system. As with the "low flow" option, the property owner is required to pay the monthly sewerage charges during any period of deferral. Qualifying for a deferral would depend upon whether a property owner can establish that connecting to the sewer creates an "economic hardship" according to set thresholds. Deferrals would last up to five years, although there are some conditions under which a property may be ineligible or could become ineligible.

This triggered NEPA reevaluation since federal grant money was used in the construction of Tillicum/Woodbrook sewers. A primary concern was impact upon the so-called environmental justice population, since the Tillicum/Woodbrook areas contain a considerable amount of poverty. The NEPA reevaluation was completed in January 2011 and concluded that requiring mandatory connection would not affect the sewer project's previously issued Finding of No Significant Impact. The Woodbrook and Tillicum communities are expected to experience an improved quality of life over existing conditions if sewer service is implemented in the following ways:

- Sewer service will begin to address the issue of failing or older, inadequate septic systems and the potential effects of these systems on human health and the environment; and
- Sewer service will serve to promote community reinvestment and better accommodate the higher-density, multi-family residential uses, as well as higher-intensity, employment-generating commercial and industrial uses envisioned in the City's current comprehensive plan.¹¹

In the end, the City Council chose to blend the two options. On March 21, 2011, the City Council adopted Ordinance No. 530 mandating connection to sanitary sewers. This ordinance states that where sewers are available to a property, that property owner has five years in which to connect or apply for and receive a deferral of the requirement to connect, but in no event shall the private septic system be allowed to continue longer than eight years after notice is served that sanitary sewer is available to a property. Should a deferral be sought, the owner is also subject to paying the monthly sewer charge. Separate from the ordinance, the Council directed the City Manager to pursue the "low flow" option with Pierce County Public Works and Utilities. Work is in progress toward this end.

Gas & Electricity: Electric utilities are provided by three different purveyors within Lakewood - Tacoma Power, Lakeview Light and Power, and Puget Sound Energy (PSE). PSE provides electricity to all of Tillicum and Silcox Island. Power to Silcox Island is through an underwater utility line originating in Lake City at the north end of American Lake. PSE also

¹¹ Technical memorandum dated January 5, 2011.

provides natural gas to the entire city, including Tillicum. Over the past ten years, PSE has made significant improvements in its distribution systems in an effort to reduce power outages caused by inclement weather. Major feeder lines have been upgraded, which may or may not provide direct benefit to Tillicum, yet it still potentially benefits indirectly from improved service and fewer power outages.

There has been a desire to underground major utilities throughout the City. In discussions with community members, the idea undergrounding utility lines along Union Avenue SW has been broached repeatedly. Costs to underground utility lines along Union Avenue SW are estimated by City staff at \$1 million, which is well beyond the capacity of the City's capital budget. Another option is the formation of a Local Improvement District (LID) where property owners tax themselves and pay for utility improvements. Given the current value of the property, the weak return on investment and the state of the economy, the property owners' ability or willingness to absorb these costs is unlikely.

Cities typically address undergrounding through franchise agreements with utility providers. Lakewood entered into such an agreement with PSE on January 23, 2006, which remains in effect. Generally, PSE does not favor underground installations because of the expense. The City addresses the issue in its development regulations. LMC 18A.50.135 requires utilities to be placed underground wherever possible, as determined by the City Engineer. To date, electrical lines running from the main feeder line onto private property are required to be underground. PSE has indicated that it will cooperate and participate with the City in the formulation of policy and development of an undergrounding management plan, which has yet to be constituted, either within Tillicum or citywide.

Schools

The CPSD owns and operates Tillicum Elementary School, located at 8514 Maple Street SW. Grades taught at the school are pre-kindergarten through the fifth grade. The school is located on a 5-1/2 acre site and was built in 1944. School buildings have not been modernized; existing structures suffer from deferred maintenance.

**FIGURE 16
TILLICUM ELEMENTARY SCHOOL**



In May 2010, a total of 290 students were enrolled¹², although not all of the children enrolled there live in Tillicum. Although numbers fluctuate somewhat from year to year, enrollment is down from a high of 462 in 1999, or a loss of about 37 percent over the years. Tillicum Elementary has the highest concentration of poor children in the district.

Tillicum Elementary is additionally supported by Communities in Schools [Lakewood] (CISL), a non-profit organization with its own board of directors. Since its inception in 1993, CISL's mission has been to promote children's readiness to learn and success in life. The organization's vision is "to help kids prepare for life through a network of parents, volunteers, businesses, and community organizations working together and focused at school sites." Programs include mentoring, tutoring, and basic needs assistance to families of students. It is organized under the national and state CIS organization and receives funding from the City of Lakewood as well as other public and private sources. Through CISL, State Farm® has "adopted" Tillicum Elementary, helping to financially support afterschool programs and encouraging its employees to volunteer as classroom aides and individual student mentors.

Community Services

Located at 14916 Washington Avenue SW, public services provided at the Tillicum/American Lake Gardens Community Service Center (CSC) include a feeding program for pregnant women and small children; senior activities and meals; food and clothing banks; and a rental hall that is also used for community meetings. It, too, is a non-profit entity with its own board of directors that receives partial funding from the City of Lakewood. The Tillicum Library is located within the CSC. Recently, management has replaced the community clinic that is closing with Sea-Mar Community Health, a full-service medical clinic which is also expected to assume operation of the maternity/children's (WIC) nutrition program. In addition, CSC staff is working toward offering a broader array of recreational opportunities outside of the City's formal parks and recreation program offerings, including such things as children's cooking classes, weekend movies, guest speakers, and the like.

FIGURE 17
TILLICUM/AMERICAN LAKE GARDENS COMMUNITY SERVICE CENTER



¹² Enrollment data is drawn from the Office of the Superintendent of Public Instruction's annual "school report card."

Table 12 below shows the activity levels reported by Tillicum/American Lake Gardens Community Service Center for the last quarter of 2010. This is only a three-month snapshot in time but offers insight into the range of community service needs in the Tillicum neighborhood.

TABLE 12	
OCTOBER - DECEMBER 2010 COMMUNITY SERVICE LEVELS¹³	
Feeding Programs	Three-Month Utilization
Senior meals	508 meals served
Japanese meals	592 meals served
Food bank	1,160 clients served
Free holiday dinner	273 people served
Thanksgiving/Christmas baskets	1,345 people served
Senior Activities	
Card games	56 participants
Bingo	525 participants
Medical Services	
CHC clinic	1,256 clients served
WIC clinic	510 clients served
Blood pressure checks	127
Diabetes checks	70
Other	
Clothing bank	459 clients served
Total volunteers	40

Additionally, **Figure 18** shows the home of the Tillicum Youth and Family Center developed in 2009 at 14511 West Thorne Lane SW. The center, owned by Youth for Christ, reclaimed what was formerly a bar and, more recently, an unsightly, ill-maintained vacant building.

FIGURE 18
TILLICUM YOUTH & FAMILY CENTER¹⁴



¹³ Source: Karen Priest, Exec. Dir., Tillicum/American Lake Gardens Community Service Center (personal email).

¹⁴ Source: Tacoma Area Youth for Christ website.

Tillicum also has a Veterans of Foreign Wars (VFW) club that was chartered in 1973. VFW Post 2329 is located at 14809 Woodlawn Avenue SW and is shown in **Figure 19** below:

FIGURE 19
VFW POST 2329¹⁵



Additional veterans' services in Tillicum are provided by GI Voice, a non-profit organization of recent veterans and civilian supporters, which operates Coffee Strong at 15109 Union Avenue SW. Expanding on a traditional coffeehouse environment, Coffee Strong offers computers, free wi-fi, recreational events and resources. It is intended to serve as a safe space for service members, military families and veterans to discuss issues like war, deployment, post-traumatic stress, and life in the military. Coffee Strong is also home to GI Radio, a fledgling internet-based radio station similarly targeted at service members, veterans, and their loved ones.

Human Services & Youth Programs

The City's General Fund supports human services via contracting and through its Parks and Recreation Department's youth programs. Funding these programs has become increasingly challenging given the limited fiscal resources of the City. As a means of increasing efficiencies in the delivery of services, a human needs assessment was commissioned in 2008. Total human services allocation in 2011 for the entire City was \$366,000, a portion of which went toward operating human services programs in the Tillicum community. It is likely that human services funding will become even more challenging in years to come. It is critical that Lakewood maintain a strategic plan to direct collaborative human services efforts among other public agencies and funding partners.

Youth programs in this part of the City are provided through volunteers and semi-public agencies. As discussed above, the afterschool program is now operated by CISL, and the new youth center has proven extremely popular and is well utilized. A free summer day camp had been provided in previous years by the City but, because of budget constraints,

¹⁵ "Home Sweet Home – Not Pretty But It Is Ours" (VFW website).

was discontinued in 2009 in favor of fee-based recreation programs. The City provides a late-night program for teens twice a month at Woodbrook Middle School during the school year (October through May). An open gym, board games and Wii are offered to the participants as well as a meal-type snack. (Parks staff adds that for 90 percent of the participants, this is their only evening meal.) The City currently partners with Lakewood Communities in Schools on its afterschool program at Tillicum Elementary each Friday during the school year. During the summer, rowing scholarship programs are offered by the rowing club during the summer, but there are no public agency programs available.

Funding for youth programs in Tillicum and Woodbrook is meager. There are no plans to add programs unless additional funding is secured. The resultant effect could include increased gang activity and crime. This is an area that decision makers may want to monitor carefully.

Military Influence

There are two military installations in the vicinity of Tillicum, Camp Murray and JBLM. Although they are currently within unincorporated Pierce County, Camp Murray and JBLM's urban cantonment areas are within Lakewood's designated urban growth area¹⁶ shown in **Figure 20** on page 50.

Camp Murray: Camp Murray is home to the Washington Air National Guard, Washington Army National Guard, the Washington State Military Department's Emergency Operations Center, and Washington State Guard. It is located south of Tillicum between American Lake and I-5. Primary access to the camp is through Tillicum via I-5 at Berkeley Avenue SW.

JBLM.¹⁷ JBLM has a rich and expansive history. Since its inception in 1917 as Camp Lewis, the base has grown and undergone several organizational changes. Comprised of the former Ft. Lewis and McChord Air Force Base, the creation of JBLM is the product of the most recent round of base closures and realignments. It is broken into three segments known as JBLM Main, JBLM North, and JBLM McChord Field. The latter represents what was previously McChord Air Force Base, while "Main" refers to the previous Ft. Lewis main post. "North" is physically separated from Lakewood, while Camp Murray and JBLM Main border Tillicum. Altogether, JBLM contains 86,000 acres, while its Yakima Training Center covers 324,000 acres.

The former Ft. Lewis is a U.S. Army post. Part of Forces Command, it has been the home of I Corps since 1981 and is one of 15 US power projection platforms. The principal Ft. Lewis maneuver units are the 62nd Medical Brigade and the 2nd, 3rd, and 4th Brigade, 2nd Infantry Division. It is also home to the 593d Corps Support Group, the 555th Engineer Group, the I Corps NCO Academy, Headquarters, Fourth ROTC Region, the 1st Personnel Support Group, 1st Special Forces Group (Airborne), 2d Battalion (Ranger), 75th Infantry, and Headquarters, 5th Army (West).

JBLM McChord hosts the 62nd Airlift Wing and 446 Airlift Wing (reserve), which are part of Air Mobility Command and provide the federal Department of Defense with a fast, flexible and responsive airlift capability. The wing's tasking requirements range from supplying humanitarian airlift relief to victims of disasters to airdropping troops into the heart of hostile areas.

¹⁶ Also shown is off-base urban growth area.

¹⁷ This section is largely adapted from the Joint Base Lewis-McChord Growth Coordination Plan (December 2010).

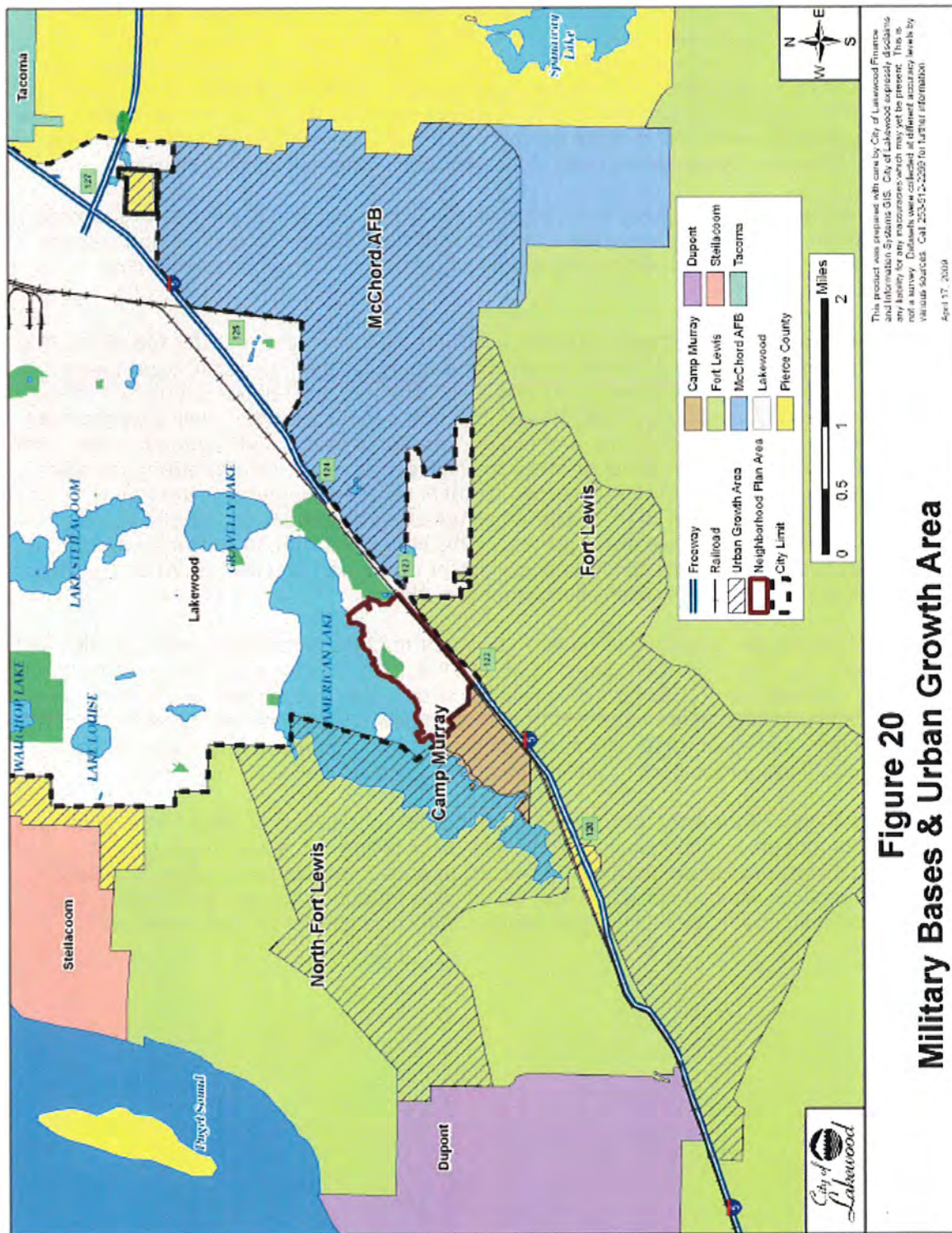
Located within the confines of JBLM Main is the Madigan Army Medical Center. Although it is not accessible to the general public except for trauma care in emergent situations, Madigan is one of the busiest hospitals in the Pacific Northwest. Outpatient visitors total 981,067 per year. There are an estimated 160,000 soldiers, family members and military retirees residing in Madigan's 40-mile catchment area. Madigan's health care mission is executed by nearly 4,000 staff members. Madigan is one of the Army's most state-of-the-art and technically advanced medical centers. It has 1.2 million square feet of building space on 120 acres. Notably, Madigan is located within one-half mile of Tillicum.

JBLM is now the premier military installation in the Northwest and is the most requested duty station in the Army. It has grown to be one of the foremost economic and cultural engines of the South Sound region and wields significant influence on surrounding communities.

As a result of several Department of Defense (DoD) initiatives, the first decade of the 21st century was a period of rapid military growth and unanticipated economic opportunity for the South Sound region. Between 2003 and 2010, the military-related population increased by 44 percent, from about 92,000 to almost 132,000 people, including military personnel and their families, DoD contractors, and civilian workforce in the South Sound region. Not counting JBLM-McChord personnel or other military personnel transiting through the base, more than 17,000 soldiers abroad returned to JBLM from deployments in Iraq and Afghanistan during much of 2010. With the termination of combat operations in Iraq, additional JBLM brigades have also returned. This is the first time in recent memory that the JBLM population is substantially in one place at one time. By October 2010, the region felt the full impact of JBLM's recent personnel growth.

Returning soldiers are expected to have a variety of impacts on social services, health and medical services, transportation, housing, public safety, education, and other regional resources. As many as 1,175 returning soldiers with family households and 570 unaccompanied soldiers were expected to establish new off-base residency within the region during the last quarter of 2010. JBLM is expected to add approximately 4,000 military personnel and family members in the coming five years, as well.

Also, more than 23,000 Army retirees live within a 50-mile radius of JBLM. The combined payroll of its military and civilian workforce is \$2.017 billion. It is the single largest employer both within Pierce County and the entire state. Coupled with \$336.3 million in contracts, services, and construction and \$13 million in federal Impact Aid funding, the overall economic impact of JBLM to the surrounding communities is \$2.679 billion.



Traffic/Transportation

Currently, access into and through Tillicum is limited due to American Lake, the Tacoma Country and Golf Club, and the military installations. In addition, access to the military installations heavily influences congestion. Major transportation routes are labeled in **Figure 21** on page 52.

- I-5 is an eight-lane freeway north of the Thorne Lane SW/Murray Road SW interchange that narrows to six lanes prior to the Berkeley Avenue SW interchange to the south. This generally north-south alignment is a mainstay of regional travel, including freight, and provides access to Camp Murray, and JBLM. The Thorne Lane SW/Murray Road SW and Berkeley Avenue SW interchanges are the primary connections between I-5 and the communities of Tillicum and Woodbrook.
- Thorne Lane SW is a two-lane collector arterial located on the west side of I-5 (opposite Murray Road SW) at the Thorne Lane SW interchange. This east-west roadway has four- to six-foot paved shoulders on both sides and a speed limit of 25 mph. Thorne Lane SW is one of two primary routes that provide access to and from I-5 into Tillicum. The average daily traffic volumes on Thorne Lane SW range between approximately 2,200 vehicles northwest of Union Avenue SW to 5,800 vehicles southwest of Union Avenue SW.
- Berkeley Avenue SW is a two-lane collector arterial providing access to Tillicum and Camp Murray. This east-west roadway is 40 to 45 feet wide, has four- to six-foot gravel shoulders on both sides, and has a speed limit of 25 mph. Berkeley Avenue SW is the other primary route that provides access to and from I-5 into the Tillicum. It has an average daily traffic volume of approximately 2,200 vehicles per day between Union and Portland avenues.
- Portland Avenue SW primarily provides access to residential areas of Tillicum. The average daily traffic volumes for this 40- to 45-foot-wide street range between approximately 1,200 and 1,900 vehicles per day.
- Union Avenue SW primarily provides access to both residential areas and the neighborhood business district in Tillicum. Union Avenue SW also has a limited 40 foot right-of-way which restricts traffic movement.
- Spruce Street SW is a two-lane 40- to 45-foot-wide roadway currently providing access to residential uses.

A traffic study was prepared in conjunction with environmental review for the sewer project currently under construction to identify existing conditions and to project how traffic conditions will change over time with the extension of sewer service. The traffic study is provided in **Appendix C** (page 97).

Existing conditions at four intersections were analyzed using a level of service (LOS) methodology. LOS is a measure by which traffic engineers analyze the delay at a given intersection – how long do vehicles have to wait at the traffic signal? – to determine how it is performing. Delays can result in inconvenience, traffic interruptions, inability to maneuver, inefficient fuel consumption, and lost travel time. It is measured using a mathematical formula that considers numerous variables, expressed as a letter A (for best quality conditions) to F (for worst conditions). **Table 13** (page 53) generalizes the LOS criteria for signalized intersections.

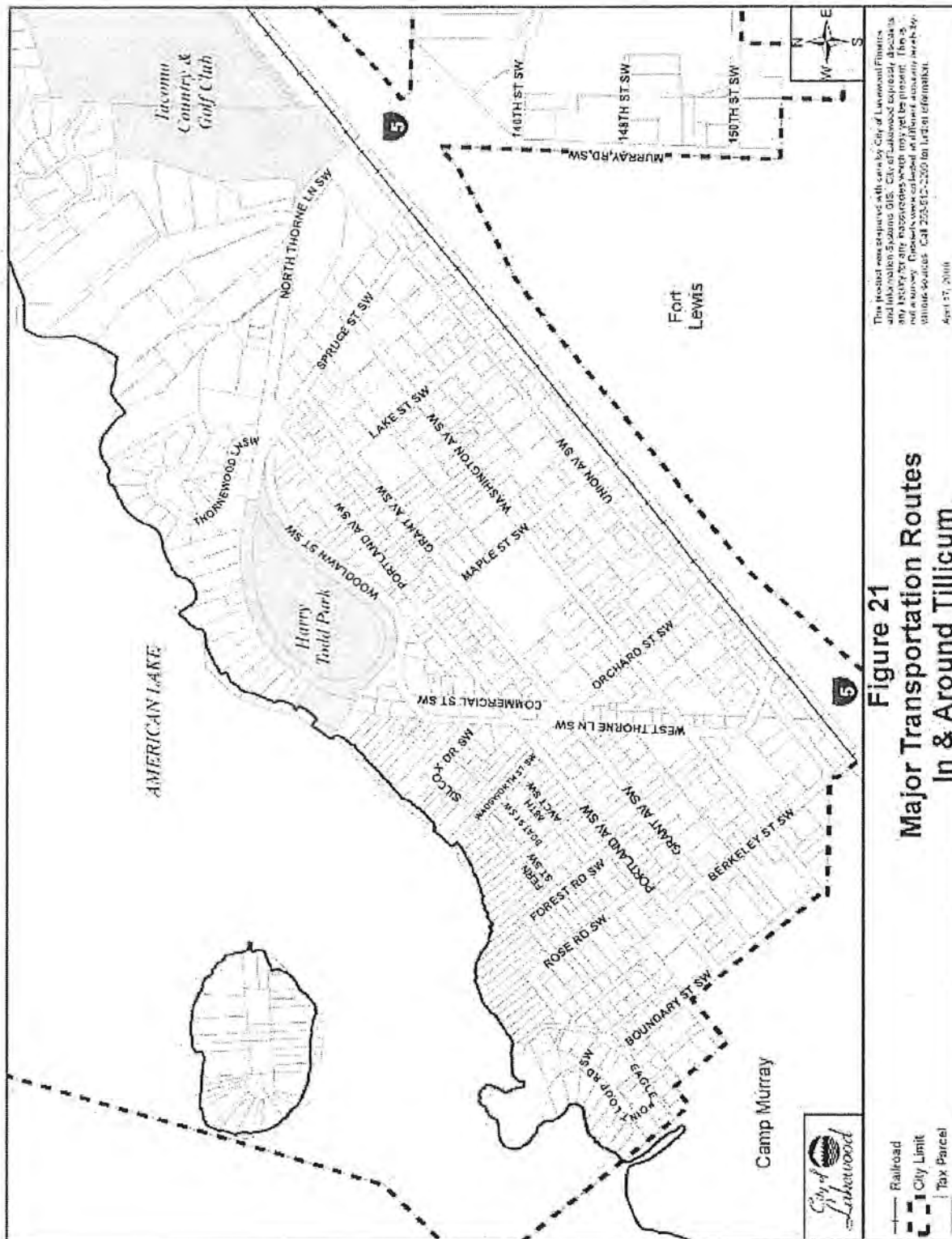


TABLE 13 LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS¹⁸		
Level of Service	Average Delay per Vehicle	General Description
A	10 seconds or less	Free flow
B	10-20 seconds	Stable flow (slight delays)
C	20-35 seconds	Stable flow (acceptable delays)
D	35-55 seconds	Approaching unstable flow (tolerable delay – traffic must occasionally wait through more than one signal cycle before proceeding)
E	55-80 seconds	Unstable flow (approaching intolerable delay)
F	More than 80 seconds	Unacceptable delay

The traffic study assessed average intersection delays (seconds/vehicle). Notable findings include:

- At the northbound I-5 ramp at Berkeley Avenue SW (signalized), the average delay is over 2-1/2 minutes per vehicle. (LOS F)
- At the southbound I-5 ramp at Berkeley Avenue SW (signalized), the average delay is over two minutes per vehicle. (LOS F)
- At the northbound I-5 ramp at Murray Road SW (signalized), the average delay is 30 seconds per vehicle. (LOS C)
- At the southbound I-5 ramp at Thorne Lane SW (signalized), the average delay is over 50 seconds per vehicle. (LOS D)

The topic of Union Avenue's optimal design came up repeatedly not just during the course of the this plan's development, but also earlier during the design phase of the sewer project. The draft *Tillicum Neighborhood Plan* noted that a final decision was needed in arriving at a preferred street plan approved by the City Council and setting street design standards for Union Avenue SW. It will serve as a footprint for Union Avenue SW's redevelopment, provide for a system for capital outlay, and will give property owners and other in the area certainty about what is to happen.

The Union Avenue SW right of way is currently 40 feet wide and is classified as a minor arterial in the City's comprehensive plan. It is narrow and will not meet transportation needs should commercial redevelopment take place after the main sewer trunk line is installed. The redevelopment of Union Avenue SW poses thorny questions, including some of critical importance:

- Since the current right of way is only 40 feet wide, how should the City obtain the additional 20 feet? Should acquisition be by development exactions (piecemeal, over time as properties redevelop) or at once (or in phases) via buyout/condemnation?

¹⁸Source: Transportation Research Board, *Highway Capacity Manual*, 2000.

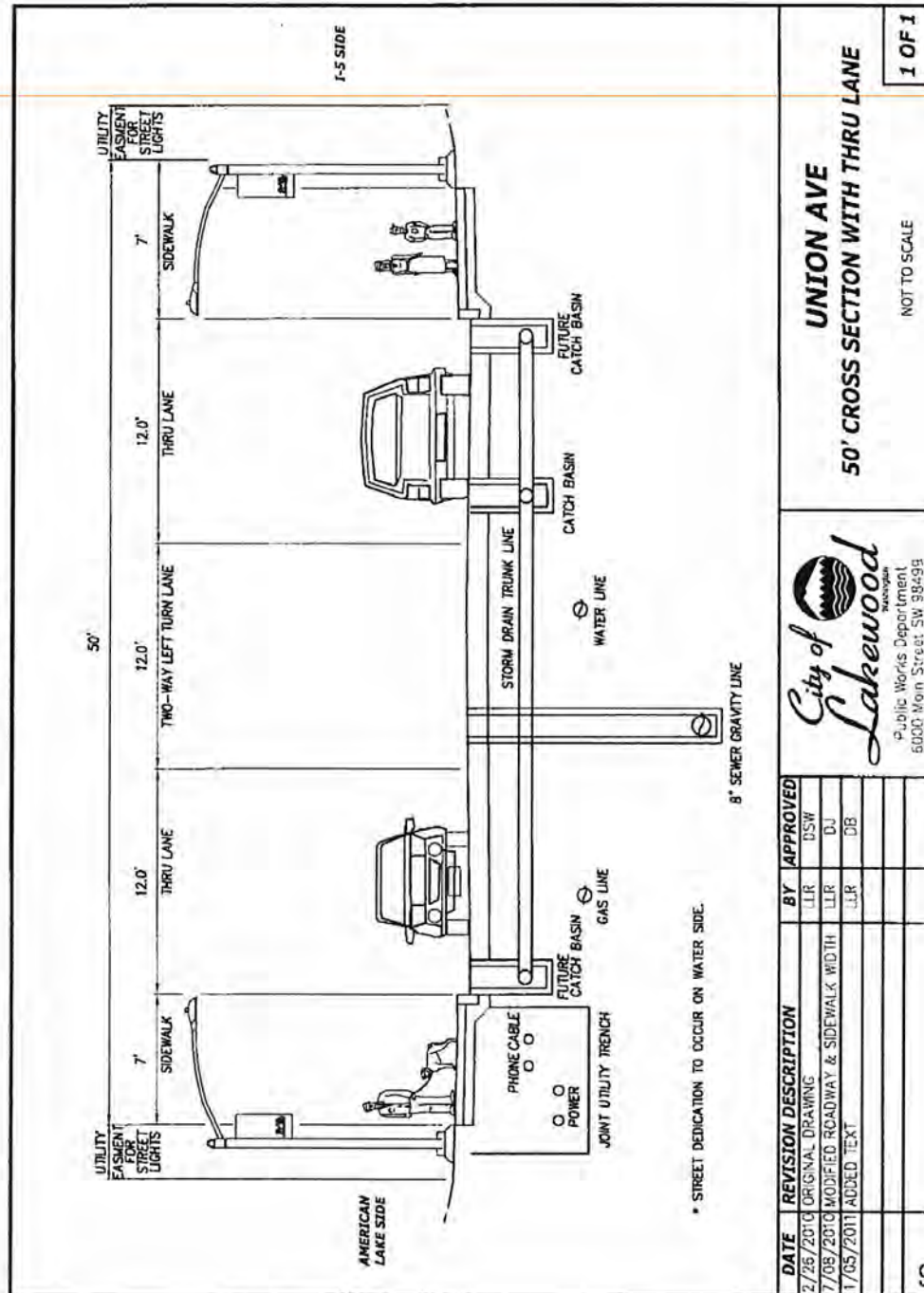
- On which side of the street should the City pursue acquisition of the additional right of way? Should it come both sides of Union Avenue SW (ten feet from each side)? Or, since the properties on the freeway side of Union Avenue SW have less lot depth, should the City seek the entire 20 feet along the lake side of the street?
- How will the additional right of way be used? Which cross-section shown above should be used, or should some other design be used? How wide should the sidewalks be?
- How will any acquisition and improvement costs be funded?

Public workshops were conducted with Tillicum property owners and businesses to probe these vexing questions. Generally, property owners on the freeway side of Union Avenue SW believed it was prudent that the additional 20 feet come fully from the other side of the street because their properties have greater value, contain less lot depth, and have limited space for parking. The property owners on the lake side of Union Avenue SW felt differently. There was also debate over the use of the proposed right of way and such features as a center turn lane, sidewalk widths, and bike lanes. The discussion was often heated, there was no consensus, and positions were often evenly divided. Citizen advisory boards did not arrive at a consistent position, either. At the moment, the City has adopted an interim street plan which requires a ten-foot dedication from each side of the street. However, the City Council may want to reexamine this policy since it may adversely impact commercial redevelopment potential. In March 2011, after prolonged consideration of these various perspectives, the City Council adopted a resolution approving a modified Union Avenue street profile (see **Figure 21A** on next page) which provides that:

- (a) From West Thorne Lane SW to North Thorne Lane SW, Union Avenue shall consist of a 50-foot wide right-of-way width with a two-lane roadway and center turn lane. The pavement width shall be 36 feet and include seven-foot-wide sidewalks on each side. Street dedications or right-of-way acquisitions are to occur from the water side, rather than the freeway side, of Union Avenue.
- (b) From Berkeley Avenue SW to West Thorne Lane SW, the existing 60-foot-side street profile shall remain.

FIGURE 21A
ADOPTED UNION AVE SW STREET PROFILE¹⁹
(W. THORNE LANE SW TO N. THORNE LANE SW)

EXHIBIT A



¹⁹ Exhibit A to Resolution No. 2011-04 adopted March 21, 2011.

Tillicum is served by Pierce Transit route 206. (See **Figure 21B.**) Funded principally by sales tax, Pierce Transit has been adversely impacted by the state of the economy; its board has just authorized an identified set of service cuts. Although cuts to Lakewood routes are minimal compared with certain other areas within the county, timing of the Tillicum route has changed somewhat.

**FIGURE 21B
PIERCE TRANSIT ROUTE 206**



As of October 2, 2011, weekday service is to occur every 30-40 minutes during commute times and hourly the rest of the day. Saturday service will occur every 30 minutes midday and hourly in early morning and late evening, and Sunday service will occur hourly. There will be no service between 9pm and 5:30am Mondays through Fridays, between 9pm on Fridays and 8am on Saturdays, between 8pm on Saturdays and 9am on Sundays, or between 5pm on Sundays and 5:30am on Mondays.²⁰

²⁰ October Service Reduction Focusing on Efficiency & Ridership, Pierce Transit, adopted June 13, 2011.

Police & Fire/Medic

Public Safety: Although early Tillicum was a quiet resort and retirement community with a strong sense of community and independence, construction of I-5 in the mid-1960s increased its sense of isolation from the rest of what went on to incorporate as Lakewood. Throughout the 1960s and 70s, greater Lakewood grew rapidly by attracting major retail, grocery, service, and other businesses. Tillicum residents enjoyed their own small corner grocery store, a laundromat, a community center, and other amenities; but with the new freeway, many residents took their business to more centralized central shopping areas, further diminishing Tillicum's local businesses.

As locals went north and fewer "outsiders" came south to visit or shop in Tillicum, more local property owners moved elsewhere. Many homes became rentals, were sold to property management agencies, or were simply abandoned - sometimes resulting in an undesirable criminal element infiltrating the area. Prior to Lakewood's incorporation, police and other government services were less accessible, so crime and blight slowly grew in Tillicum. Gradually more residents left, more housing became run-down, and more very low-income residents moved in. Crime and mental health issues continued to grow in the community.

Tillicum suffered an influx of Los Angeles gangs during the 1980s. Deteriorating conditions, low rents, and poor community morale created a market for drugs, prostitution, and property crime. Tillicum acquired a negative image as a high crime center.

More recently, residents are again taking pride in their neighborhood, communicating with neighbors, and forming Block Watch and other anti-crime programs. The police district that encompasses the Tillicum neighborhood holds a little over 12.5 percent of Lakewood's population, with approximately 7,300 people, and has experienced a significantly improved crime rate over the past several years largely due to a proactive police and community effort. Property crime is relatively low, while violent crime per capita is still a challenge.

From 1996 through September 2004, police services were provided by contractual arrangement with the Pierce County Sheriff's Department. In September 2004, the City of Lakewood formed its own police department. While Tillicum's particular needs sometimes outpaced the young city's resources, in the last few years Tillicum has seen remarkable improvement. Various programs were instituted citywide and are practiced in Tillicum:

- Proactive property maintenance and code enforcement including abatement of dangerous buildings and public nuisances.
- Intragency cooperation between the police department and other City departments to provide a high level of service in all aspects of civic support to Tillicum. The police partner with the City's own code enforcement, building inspection, public works, and human services staff; and other city, county, state, and even federal resources to ensure rapid, effective communication and response to developing issues in Tillicum and elsewhere.
- Implementation of crime prevention measures and youth enrichment programs to foster community involvement and civic partnerships.
- Implementation of a community-based policing organization, dedicated to proactive crime prevention. These programs include motel "best practices" checks, Raising the Bar (training and enforcement of local bars, taverns, and

lounges), neighborhood associations, residential and business Block Watches, and a citizen-based volunteer patrol group.

- Implementation of a Crime-Free Housing program. Dedicated neighborhood policing teams work continually with tenants, management and owners of apartments, mobile home parks, and motels to train and enforce best practices for stopping crime and criminals at the door. Denying criminals a place to live and operate forces them out of the neighborhoods. Property managers learn to conduct thorough background screenings of tenants, enforce rental agreement rules, professionally evict troublesome tenants, and facilitate periodic "safety social" events for tenants to share crime prevention tips and get to know their neighbors. Police share information, evaluate calls for service, watch for patterns of crime and conduct routine patrols to engender a sense of safety for the residents. The police watch for a high draw of police services and address the underlying problems directly. These partnerships and tools are especially meaningful in Tillicum with its high number of multifamily properties.
- Support of youth-oriented programs, including a local Boys & Girls Club and development of the new Tillicum Youth and Family Center – reclaiming a derelict bikers' bar to house this new service. (See **Figure 18.**)
- Provision of hotlines for non-priority issues like abandoned vehicles, prostitution, drug/gang tips, and animal issues. These voice messages are reviewed daily and assigned to the proper resource for follow up. This allows the police department to efficiently manage its resources while insuring a prompt response to the citizens' concerns.

Fire Prevention & Emergency Medical Response: Fire prevention and response in Tillicum are the responsibility of West Pierce Fire and Rescue, which assumed the former Lakewood Fire District No. 2 following a public vote. Tillicum is served by Station 23, located at 14505 Grant Avenue SW, adjacent to a Lakewood Water District water tank. Response times from dispatch averaged four minutes and 30 seconds on high priority calls, with an average arrival time of five minutes and 24 seconds from dispatch on all calls. Mutual aid agreements exist between the fire district and the fire departments of all adjoining jurisdictions, including military installations. The Tillicum station was recently remodeled and is expected to meet projected service needs for the foreseeable future.

**FIGURE 22
TILlicum FIRE STATION**



Housing

Tillicum hosts many older homes, manufactured homes, and older multifamily units. There is a considerable dichotomy of the "haves" and "have-nots" within the community, which is evident from the housing. To the north and along American Lake, large, newer homes are contained inside gated communities that form a real as well as perceived boundary between socio-economic classes. Although some of the older housing stock is well maintained, much is not. As noted in the census data, there is a low rate of owner occupancy that likely contributes to property maintenance issues. Between 2006 and 2009, Lakewood performed abatements of hazardous conditions on 20 properties, seven of which are located in Tillicum (35 percent). As of January 2009, two properties in Tillicum were on the City's priority list for abatement. Apartment complexes or mobile home parks that have serious calls for service have been closed using the City's business license provisions. Often, these same apartment complexes and mobile homes contain numerous health and safety violations. Only the more serious cases are acted upon because of budget constraints. At the same time, the City recognizes that although it may be substandard and in some cases dangerous, such housing sometimes provides a last-resort roof over the heads of those who would otherwise be homeless.

Between 1998 and 2007, only four new single-family residences and three new commercial projects were built in Tillicum besides the Eagle Point subdivision, an approximately 20-acre area formerly owned by PSE. There has been no new multi-family development. Eagle Point includes 17 detached single-family residences, 33 attached single-family residences, and four duplexes. This gated community, served by private roads, was approved as a Planned Development District. It is served by a private community septic system which required special approval from the City's Hearing Examiner and the Tacoma-Pierce County Health Department.

Future Plans & Zoning

Lakewood has four general-purpose commercial zoning districts: the Commercial 1 and 2 (C1 & C2) zones and the Neighborhood Commercial 1 and 2 (NC1 & NC2) zones. The former are tied to the Corridor Commercial comprehensive plan future land-use designation, while the latter are applied to areas designated Neighborhood Business District. According to the comprehensive plan:

"Neighborhood Business Districts are intended to foster a sense of urban community in neighborhoods. They provide for a concentrated mix of activities, including retail and other local services, residential, and some office use. Over time, districts evolve and mature into distinctive compact urban environments, providing unique commercial character to neighborhoods in Lakewood. Districts may serve the surrounding neighborhood only or may serve more than one neighborhood and attract people from other areas. Districts may facilitate restoration and vitality in an existing neighborhood center or may create a new focus for a neighborhood. These districts are expected [to] provide commercial services, as well as residential uses in the upper floors of some buildings."

In recognition of the limited nature of the commercial area within Tillicum, it was the Neighborhood Business District designation²¹ which was applied at the time of the comprehensive plan's creation. It appeared best suited to maintaining the status quo in light of the physical restrictions on commercial expansion posed by the lack of sewers and relatively small commercial lot sizes.

Correspondingly, some of the area along Union Avenue SW was zoned NC2²². This generally followed existing development patterns, while recognizing there do exist some nonconforming commercial uses that are not, today, zoned commercial.

The majority of Tillicum is zoned for either single-family or multifamily residential uses, depending on the area; with open space and public facilities zones applied to appropriate locations. Overall, development activity is very limited; most projects are remodels, repairs, and minor additions and commercial tenant improvements.

Economics

In 2007, New Home Trends performed an economic analysis of the Tillicum community. The report was commissioned by a private party and later purchased by the City. The report contained a variety of conclusions and recommendations which are summarized below:

Opportunities/Strengths

- Tillicum's location will be one of the key elements to its success. The community is located adjacent to I-5, 20 minutes from Olympia, 10 minutes from Tacoma and five minutes from JBLM and Madigan Hospital.²³

²¹ See Figure 3.

²² See Figure 4.

²³ While these travel times were stated in the New Home Trends report, actual travel times are likely to vary and rely in part on traffic congestion and level of gate activity in accessing JBLM Main.

- Tillicum is large enough to create a sense of place. It has the flavor of an “all-American town” with its size, park, the military presence and the lake.
 - Tillicum borders American Lake, has a boat launch, public docks and is adjacent to the Tacoma Country and Golf Club.
 - Tillicum has higher-end homes adjacent to the lakefront.
-
- The location of JBLM provides opportunities for new housing in Tillicum.
 - There is a shortage of small lots in Pierce County.
 - There are few newer apartments in Lakewood.
 - Military families are priced out of the new home market, which is forcing many to rent instead of buying, or to move to Thurston County.
 - Tillicum has the potential demand for between 139 and 186 new housing units per year.
 - The urbanized area of the Puget Sound will continue to creep south into Thurston County along the I-5 corridor. Tillicum has the potential to be a great midway point for dual income households that work both north (Tacoma-Seattle) and south (Lacey-Centralia).

Weaknesses/Threats

- Tillicum has a bad reputation and does not feel safe.
- Much of the community appears to be run down. Current retail development needs a facelift in order to attract new residents and business. Clean-up efforts are highly encouraged. Design standards are also encouraged for both residential and commercial development.
- Harry Todd Park is a beautiful waterfront park but is not ADA accessible so has limited access to its waterfront, and it feels like a fortress because of the chain link fence surrounding its edge.
- The primary buyer of new home products would be the military if prices are kept under \$250,000.
- DuPont’s Northwest Landing has difficulty attracting retail tenants even with 1,000 new households and higher economic levels. It is expected that Tillicum will experience similar problems attracting commercial redevelopment.
- Economically, Pierce County is growing at a slower pace than the other counties in the region.
- New development will be infill. The majority of the new construction will be smaller developments. These projects will not be staffed with on-site real estate agents which means lower than normal absorption rates.

New Home Trends examined the potential for commercial and retail development. To do so they made two assumptions. First, potential customers would come from a 1.5 mile radius or a five to ten minute drive time. Second, given JBLM's proximity to Tillicum, it was assumed that 47 percent of the population within the captured area would be military. It was also acknowledged that this number was problematic since soldiers and their families can shop on-post, where many retail goods cost less. New Home Trends then examined the overall demographic of those who work and reside within the 1.5 mile radius. **Table 14** summarizes income levels for the potential "customer capture" area used by New Home Trends in performing its analysis.

TABLE 14 2007 Income Data	
Median disposable income	\$29,842
Median income	\$35,673
Per capita income	\$19,020

Businesses that are projected to do well are those catering to the traveling public on I-5, taking advantage of the interchanges. Tillicum's economic strengths include its proximity to I-5, Tacoma, Olympia, Madigan Hospital and adjoining military installations. Other commercial services projected for the near term include dry cleaning and laundry facilities, banking, personal services, gift shops, a small new or used book store, and possibly children's consignment.

The New Home Trends report did not take into account the growth of JBLM. The proximity of Madigan and JBLM have highly influenced existing commercial development in Tillicum, which is largely comprised of fast food eateries, barber shops, and other services that might be sought by base personnel during break periods. Perhaps the 1980 plan was correct in concluding that Tillicum would continue to be strongly influenced by JBLM; however, conditions at JBLM are changing in a way that may negatively impact demand for off-base food and services. It is pursuing the development of a "lifestyle center" which would essentially provide it with a downtown-type commercial area on base. If this development succeeds, it is likely to diminish base personnel's practice of leaving the installation for meals and other services. This could undermine existing Tillicum commercial uses, but at the same time it may promote redevelopment as a means of bringing in new and more competitive uses.

WHAT WILL THE FUTURE BRING?

Community Infrastructure

Sewer

Figure 9 (page 26) provides a schematic drawing of the new sewer extension system. The system does not extend to all of Tillicum; rather, it provides a backbone for initial service and envisions subsequent expansion. Because of topography, sewage from the two neighborhoods will flow by gravity to one of three pump stations and then be pumped through force mains to the Pierce County system. In Tillicum, pipes have been installed along portions of Spruce Street SW, Portland Avenue SW, Berkeley Street SW, and Union Avenue SW.

Future extensions would likely be financed and implemented through developer-financed sewer extensions or ULIDs. Under a ULID, the connection of a single-family residence to the sewer system is estimated to be between \$15,000 and \$25,000.

Stormwater Management

Upgrading of the existing storm water system was integrated into the sewer system installation. The new stormwater system, shown on the next page in **Figure 23**, includes facilities specifically designed to treat and infiltrate storm water. The new system may infiltrate surface water in different locations, but it is not expected to substantially change groundwater flow. There is intended to be, however, an improvement in water quality over existing conditions.

Water

Lakewood Water District reported that Tillicum is adequately supplied by recent improvements in the Woodbrook area, including 3.5 million gallons of storage and 12- and 16-inch water mains that cross I-5. An upgraded 12-inch diameter water main was recently installed in the Union Avenue SW right of way.

However, as the City began the engineering analysis of the new sewer project, it was discovered that much of the existing water distribution system was undersized and in a deteriorating condition. The Water District budgeted over \$1 million to upgrade about 6,500 feet of Tillicum water mains. New, larger water mains of six to 12 inches in diameter were installed on portions of Union Avenue SW, Spruce Street SW, Portland Avenue SW, and Berkeley Avenue SW in conjunction with the installation of new stormwater and sanitary sewer systems and road restoration. **Figure 24** shows the locations of these new lines.

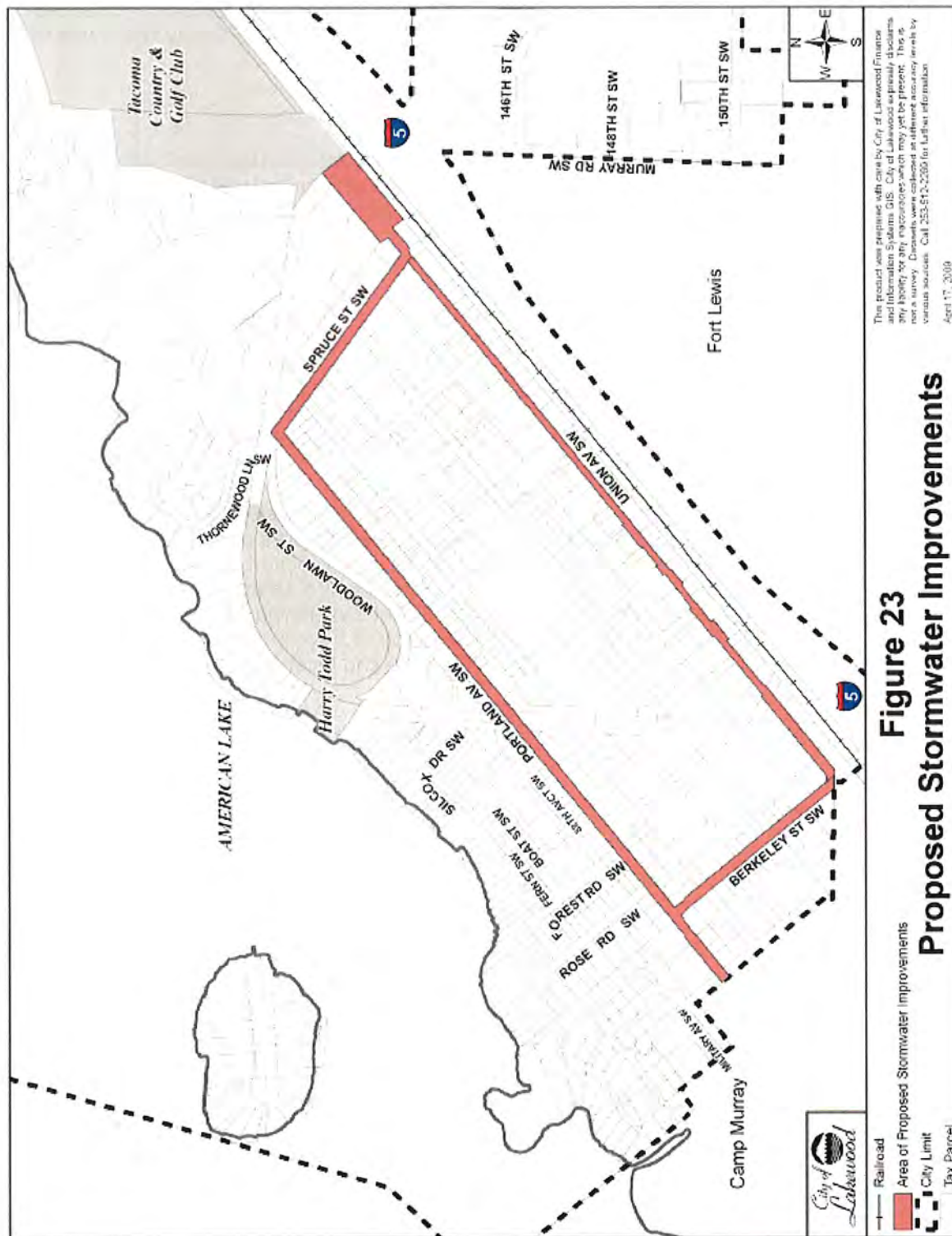
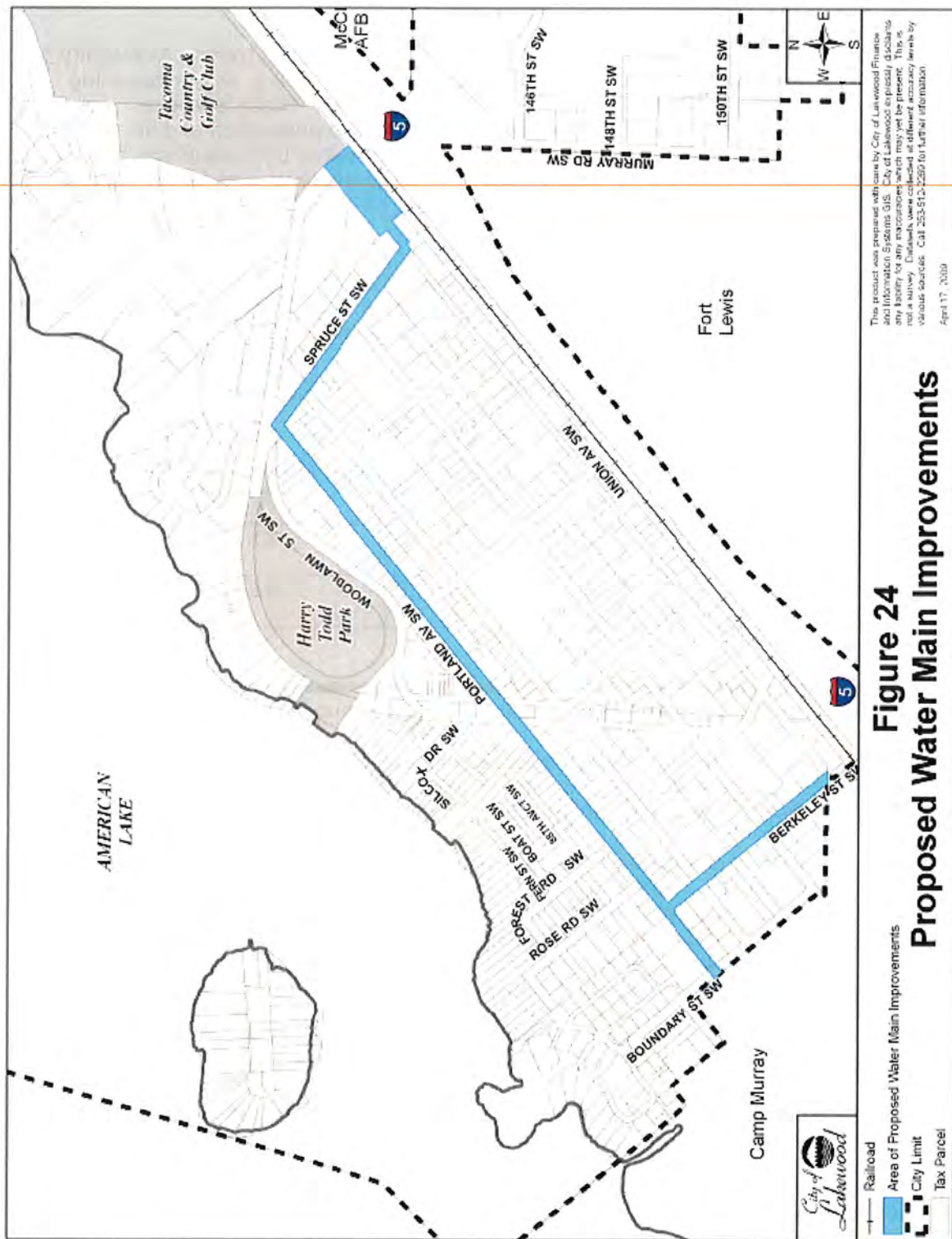


Figure 23
Proposed Stormwater Improvements



Traffic/Transportation

There is a relationship between installation of sewers and increased traffic. Availability of sewers in Tillicum is likely to spur interest in expanding, intensifying, and/or replacing existing commercial uses and in adding more residential units. These land-use improvements are, in turn, expected to lead to increased trip generation and an accompanying degradation in traffic conditions. The anticipated LOS reductions are shown in **Table 15**, which is drawn from environmental information developed for the City's sewer project and compares existing conditions with future projections.

TABLE 15 EXISTING & PROJECTED TRAFFIC CONDITIONS						
	2007 existing conditions		Projected 2017 Scenario A²⁴		Projected 2017 Scenario B²⁵	
Intersection	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
SB I-5	D	50.7	D	54.4	F	<200
NB I-5 ramps/Murray Road SW	D	35.2	D	36.2	F	>200
Murray Road SW/150 th Street SW	F	71.9	F	134.1	F	>200
SB I-5 ramps/Berkeley St. SW	E	61.5	F	93.7	F	186.0
SB I-5 ramps/Jackson Avenue	F	82.9	F	82.1	F	160.1

As may be seen, major intersections are anticipated to operate at unacceptable levels by the year 2017, which is the assumed horizon for full build-out of the proposed land uses.

While the lack of sewers has impeded redevelopment in Tillicum, just as problematic is Tillicum's limited access onto I-5. For redevelopment to take place, resolving longstanding transportation issues remains a high priority.

The traffic forecasts and analysis conducted as part of the environmental review for the Cross-Base Highway also relate to Tillicum traffic. As part of the Cross-Base Highway project, the I-5/Thorne Lane SW interchange would be reconstructed as a "single-point urban interchange," (SPUI) and a southbound local-access roadway from SW Gravelly Lake Drive to Thorne Lane SW would be constructed. These proposed changes to the transportation system would increase future travel demand at the I-5/Thorne Lane SW interchange. However, the increased traffic volumes at this interchange would be more effectively served by the SPUI configuration compared to the existing full diamond interchange configuration, resulting in improved LOS and less delay.

Traffic volumes at the I-5/Berkeley Avenue SW interchange would likely decrease as a result of the new highway connection, as some vehicles traveling between the Tillicum neighborhood and points to the north and east (via I-5 and SR 704) are expected to divert to the improved I-5/Thorne Lane SW interchange. These traffic diversions would not likely improve intersection LOS but could result in slightly reduced delays at the north- and

²⁴ Based on a 1.5% annual growth rate, but without sewers

²⁵ Based on a 1.5% annual growth rate and with sewers

southbound I-5/Berkeley Avenue SW intersections. However, it is important to keep in mind the Cross-Base project is unfunded at this time, so these improvements cannot be relied upon at a known point in time.

Housing

Tillicum's location will be one of the key elements to its success in the coming years. It is both proximate to and within visual sight of I-5 and within convenient driving distance to Tacoma and Olympia. Its close proximity to military facilities is important because the military is often priced out of the new home market, forcing many to rent instead of buy. The primary buyer, according to the New Home Trends analysis, will be military if the prices for housing can be kept under \$250,000.²⁶

The construction of a range of housing types will provide future homeowners with additional choices based on their lifestyles. This will build the residential population density to a level that can begin to foster a sense of community.

Tillicum is large enough to create a sense of place, and there is enough vacant land and dilapidated housing stock that can be utilized as a catalyst for redevelopment. Since, economically, Pierce County is growing at a slower pace than other counties in the region, and the majority of the new construction would be infill and smaller developments, absorption rates are likely to be lower.

New strategies are necessary to increase quality affordable housing. Listed below are some suggestions for consideration. These concepts are generally drawn from the Pierce County housing affordability report (March 2007) and have been tailored to some extent to fit Tillicum.

Affordable Housing Incentive Area

Affordable housing districts are areas targeted for affordable housing development. Within these areas, special zoning exceptions may be applied such as relaxed height restrictions and decreasing parking requirements to offset developer costs of producing housing that remains at an affordable price level for a protracted period of time. Often this type of designation is used along with other incentives such as waiving fees and providing density bonuses. Since Lakewood does not directly provide utility services, one of the challenges will be to seek reductions in capacity charges from local utility providers.

Non-Profit & Community-Based Developers

Several non-profit or community-based developers have expressed interest in partnering with the City of Lakewood. Such groups are more likely to invest in real estate projects in areas like Tillicum where there has traditionally been a weak demand for land and little interest among traditional developers. Organizations such as the Tacoma and Pierce County housing authorities, Habitat for Humanity, and Catholic Community Services often have a strong commitment to specific geographic areas and remain committed to transforming those neighborhoods over a long period of time. Unlike private developers, they are not necessarily seeking prime locations that will realize high financial returns.

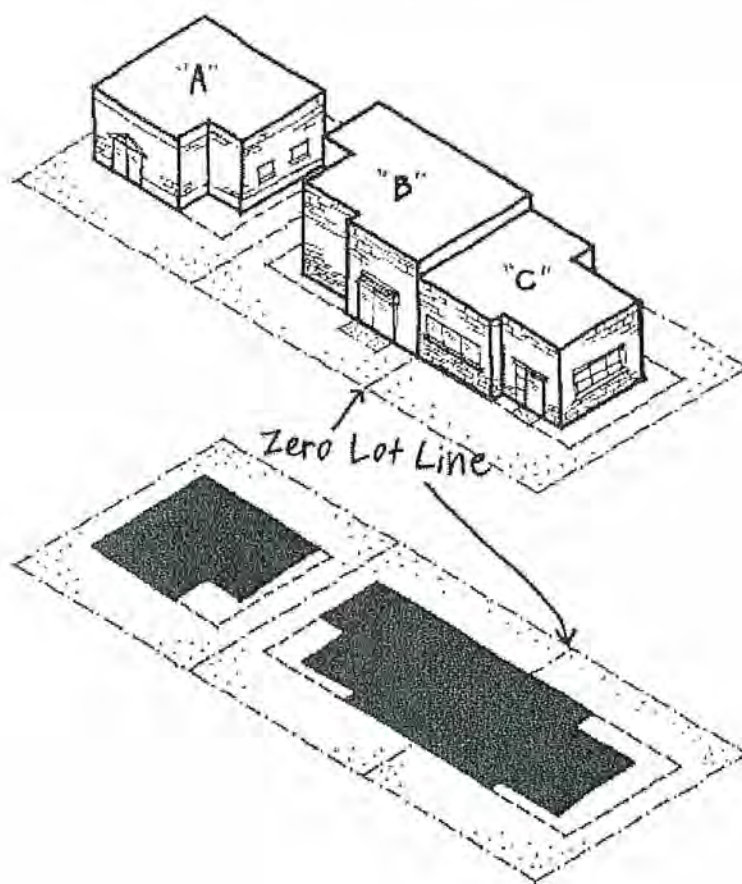
²⁶ In 2007 dollars. It should be noted that this analysis was performed prior to the current economic downturn.

Recently, Tacoma-Pierce Co. Habitat for Humanity won a \$15,000 "Challenge for Change" award to be used toward affordable housing construction in Tillicum. Currently, Habitat is conducting community meetings to engage prospective buyers in the lead-in process.

Zero Lot Line Development

This development format allows lot widths to be reduced, creating garden homes, patio homes and narrow lot homes. Building heights range from one to three stories, and their designs and demographics vary greatly from neighborhood to neighborhood. It creates higher-density housing, allowing developers to spread costs over more units. This, in turn, potentially reduces final purchase prices for homeowners. Because of the way in which much of Tillicum was originally platted with small lots, zero lot line development has considerable potential as older units are demolished and replaced. One concern is addressing parking. In some communities, off-street parking is not provided which means cars are parked on the street and can create congestion.

**FIGURE 25
ZERO LOT LINE CONCEPT²⁷**

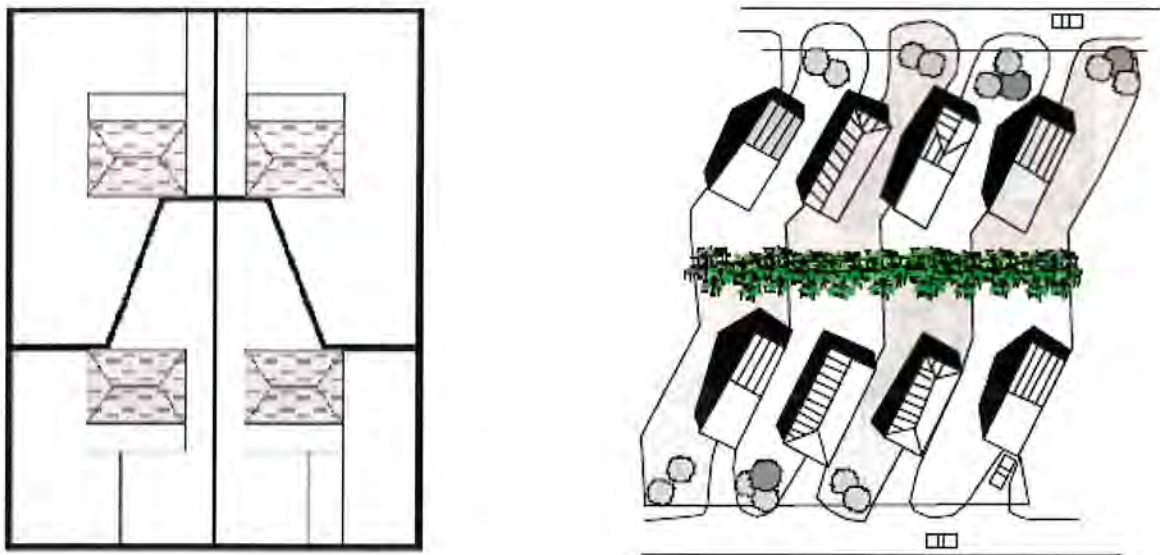


²⁷ Source: City of Bozeman, Montana.

Zero lot line development particularly offers an advantage in reusing existing plats, but it can also be utilized in new plats or modified through such variations as the "angled Z-lot," "zipper lots," and "alternate width lots."

The angled Z-lot turns the home at a 45-degree angle to the street, which enhances visual appeal and makes it possible to add more windows without compromising privacy. Zipper lots vary the depths of rear lot lines, which concentrate open space on one side of the lot and make wider lots possible, with only garages located on the property line. Alternating width lots combine narrow and wide lots to give visual variety to the streetscape.

FIGURE 26
ZIPPER & ANGLED Z-LOTS²⁸



Cottage Housing

Key areas, such as the blocks located directly north and south of Maple Street SW and toward the elementary school, are envisioned as higher-density areas (mixed-use retail and residential housing, row housing and condos). Tillicum was designated, in the comprehensive plan, to carry a higher concentration of higher-density housing. High-density neighborhoods build a critical mass of residential density to support new local businesses and discourage unwanted street activity. Cottage housing, small homes clustered around common green open spaces, could be incorporated into the area near Maple Street SW and Harry Todd Park. This type of housing could be allowed in single-family or multifamily zoning districts. Standards for cottage housing would promote development that is similar in scale and design of bungalows. Cottage housing can provide an affordable alternative to single-family home ownership and create additional affordable housing options in a community.

²⁸ Source: City of Suffolk, Virginia.

FIGURE 27
COTTAGE HOUSING DESIGN²⁹



Third Street Cottages, Langley, Washington

"Great House" Design

Another form of housing is called the "great house." This concept uses urban design that makes an apartment look like a large single-family house. It can be used on single lots or throughout a larger piece of land using common open space. The design helps to reduce stereotypical images of apartments and affordable housing, it fits in better visually with existing single-family development, and it also reinforces property values by giving continuity and aesthetic appeal to adjoining properties.

²⁹ Source: The Cottage Company.

FIGURE 28
GREAT HOUSE DESIGN³⁰



Kyle Center, San Antonio, Texas

Affordable Building Design

A unique concept that both the private and public sector may wish to consider is having preapproved, permit-ready plans on file with the City. This would allow faster permit turnaround time and may be used to permit development to locate on narrow lots or infill sites that are difficult to develop and use existing infrastructure.

Inclusionary Housing

The inclusionary housing concept requires developers to include a number of affordable homes in new residential developments. The number of affordable units to be included in the new developments is based on a percentage of the total number of units in the development (generally 12 to 15 percent). The cost of providing the affordable units is

³⁰ Source: Humphreys & Partners Architects, LP. Kyle Center is a “Big House”® project containing 382 units in 41 buildings at a density of 15.23 units per acre. Used with permission; all rights reserved.

offset with a density bonus or other developer incentives. Additionally, the resale price of the affordable units is restricted for a number of years (e.g., 20 to 30 years).

There are two types of inclusionary housing used by cities:

- Required – The number of affordable units and their guidelines for inclusion into new developments are required for compliance.
- Flexible – A city may allow developers the opportunity to pay a proportional fee per unit or to include affordable units in another development, instead of including the affordable units at the present time and location.

Inclusionary housing has its pros and cons. From a social perspective, it helps to integrate the “haves” and “have-nots” in a single development. This can raise the bar for home maintenance that is sometimes lacking among low-income homeowners, and at the same time it reduces concentrations of poverty that lead to areawide blight. New home buyers are strong supporters because it makes affordable housing available to persons who otherwise would not be able to purchase a house. Elected officials may back such a program because it does not require a large financial investment by the jurisdiction. In some parts of Lakewood, rezoning has resulted in redevelopment opportunities that would result in a loss in existing affordable units. Inclusionary housing would help offset the overall impact. Employers and businesses are helped because it makes housing available to entry level and mid-management employees.

There remains some “gray area” as to whether such a program is feasible. Lakewood already included a incentive-based inclusionary zoning program in its zoning code³¹; however, to date no one has taken advantage of it. If the City were to make such a program mandatory, it would be the first jurisdiction in Pierce County to do so. Generally, it is thought that such programs are only successful when they are available throughout a broader geographic area, not in just one city. It is not clear whether the current and future market conditions support such a program without performing a detailed pro forma analysis of the Lakewood housing market – which, at present, is interrupted by the state of the economy. An inclusionary housing program would require promulgation of new procedures and regulations to which the building industry may object. It would also require additional staff to administer the program.

Rental Housing Inspections

Some of Tillicum’s rental housing stock is in extremely poor shape. This statement is based on various housing inspections carried out by staff through investigations into illegal construction and enforcement actions. The Community Development Department has considered, but has not put into practice, carrying out annual housing inspections on rental properties through the City’s business license and building code regulations. If residential units pass the inspection, they would be available for rent. If they did not pass, they would be unavailable for rent until proper improvements are made, including permit acquisition and construction inspections where necessary.

Over time, such a program would improve housing stock, increase property values, reduce property maintenance complaints, and promote fire safety. It sends a strong message to absentee landlords that deferred maintenance practices are no longer permitted. However,

³¹ LMC 18A.50.700, Housing Incentives Program.

such a program may serve to decrease housing availability and cause displacements in the short run as well as resulting in increased rents.

The scale of the inspection process also poses a problem. There are well over 12,000 rental units in Lakewood as a whole. Resource limitations restrict the City's ability to carry out such an assignment citywide. However, a pilot project in Tillicum may prove beneficial to the area in the long run. Prior to implementing such a program, the City Council would need to decide to invest in such a program, beginning by altering codes and business license provisions, and further determining specific funding. Would such a program be funded through general fund revenues or using CDBG funds? Who would perform the inspections and follow-up assignments? Would this be accomplished through increasing City staff (estimated at \$111,000 in 2008 dollars) or retaining a qualified consultant?

Schools

Both CPSD and the Tillicum community are confronted with difficult questions about the future of Tillicum Elementary, given its physical condition and declining student population.

- Should CPSD close Tillicum Elementary and disperse the students to other schools throughout the district? Given the school's current relatively low academic performance, removing the students from this environment and placing them with a higher-achieving student population may be of benefit. If this is the case, what happens to the existing building and school grounds?
- With sewers and new infrastructure being proposed, community revitalization and higher residential densities are likely. Should CPSD upgrade or replace the school in anticipation of future growth? Would voters support a bond measure to refurbish the school, keeping in mind that any such measure would be voted upon by not just Tillicum but everyone living in the district?
- Should the facility remain open but be used for a different purpose? Could Tillicum Elementary be upgraded and used as a magnet school? Or could the school be used as a joint facility with primary education offered during the day and adult education offered in the evenings in cooperation with a local community or technical college?

This is a difficult decision. The future of this elementary school was considered in 2009 by a citizens' advisory committee appointed by the school superintendent. This committee was charged with updating a revised district-wide capital facilities master plan that includes Tillicum Elementary. Its recommendations to the school board anticipated that future redevelopment in Tillicum would likely increase the demand for an elementary school within four to five years and included this specific follow-up work to align with the *Tillicum Neighborhood Plan*:

"Conduct a study beginning the spring of 2010 to consider the temporary closure of Tillicum Elementary beginning the 2011-12 school year. This would include where to distribute students and programs during this time identified in any recommendation and a revisiting of school boundaries within the affected areas. Identify, as a part of this study, a plan for potential future reconstruction as part of a 2014 bond. Consider community service

partnership opportunities in any new facility to optimize operating and service capabilities.”³²

Currently, CPSD has not taken any action with regard to the recommended study. It is expected that the City’s actions on the *Tillicum Neighborhood Plan* will drive any decision to initiate the study.

It would appear that demolishing the existing Tillicum Elementary School has merit, as long as CPSD plans for a future school when redevelopment within the Tillicum community begins to take place. Combining an elementary school with adult education and community recreation would go a long way in improving the quality of life for Tillicum and Woodbrook residents, particularly in light of the transportation impediments of local residents, the area’s isolation, and the low educational level among a majority of residents.

CONTINUING CHALLENGES

Many of the conditions and challenges identified in this plan are the same fundamental issues as those identified in the initial Tillicum plan that was done almost 30 years ago. While it is a positive step to identify issues, without going on to put solutions into place a plan is rendered meaningless. It is, therefore, crucial to move this plan into implementation.

This section focuses on those issues that are of the most concern and that should be addressed within the next year or two. The primary topics include community capacity, image, land use, and transportation. That is not to suggest that other areas are not equally important – they are; however, the City has limited resources. Therefore, it becomes important that existing structures be called upon to contribute. Once priority issues have been properly examined by the public and local decision makers, public policy is established, and implementation programs are put into practice, then City staff would move forward with other topics as directed. Key to this plan’s successful implementation is developing community stability – to have forums and processes through which the community shares information, identifies priorities, and manages limited resources.

Community Capacity

It is extremely challenging financially to quickly repair longstanding problems that have evolved in a given neighborhood over time. While public as well as private sector capital investment will be necessary, it is also beneficial to invest in “social capital,” or the capacity of the community members themselves to address issues. If Tillicum residents can identify their priority issues, work with the City, provide the right incentives to spur positive change, and track the results of their efforts, they can achieve a great deal. Community capacity is grounded in improving communication and information-sharing between different interest groups that have a mutual stake in the community.

Strong community leadership and involvement are essential to solving neighborhood issues. At a grassroots level, neighborhoods must take responsibility and be integrally involved in addressing local problems. Tillicum already possesses neighborhood and merchants’ associations, TWNA/“Community Matters” and the Tillicum Merchants’ Association. The vitality of these organizations is largely due to the strong commitment of a single resident,

³² Source: Clover Park School District Facilities Advisory Committee Final Report and Recommendations, 2008-09

David Anderson, in coordinating each. In 2010, another community group, the Tillicum Action Committee (TAC), coalesced around issues such as the proposed Camp Murray gate relocation and the Pt. Defiance Bypass project and has continued to be actively involved in matters relating to Tillicum.

Through the City's neighborhood patrol program, there is good communication between residents and the Police Department. Among a certain group of more involved, vocal residents, there is a strong desire for change and improvement. These conditions speak well of the community's capacity for addressing local issues. On the other hand, the high percentage of absentee landlords and turnover of rental tenants negatively impacts collaborative community involvement. The same tired problems never quite seem to get resolved – garbage doesn't get picked up; graffiti gets painted over, only to be quickly re-tagged; when one property maintenance violation is removed another pops up at the same location with a new tenant.

Also challenging is bringing together the neighborhood's different socio-economic means which, as noted, fall largely into the "haves" and the "have-nots." As a means of bridging these gaps and empowering Tillicum through grassroots problem-solving and building strengths and competencies, the draft *Tillicum Neighborhood Plan* urged the creation of a community leadership team that involves people from all socio-economic segments of Tillicum as well as City Council and school board members. The intent was to expand the capacity of the current TWNA and merchants' association to build relationships and leverage resources to the betterment of the community. However, since the TAC formed itself spontaneously, spurred on by merely the suggestion, it would be redundant for the City to seek to form yet another community group, which could be viewed as competing with that which shaped itself. Instead, it is now incumbent upon the City of Lakewood to continue to support and work with the TAC as the recognized grassroots community improvement group for the area.

Image

In light of its past public safety issues, Tillicum's reputation appears to among its biggest ongoing challenge, perpetuating a feeling of lack of safety and that it is an area for all but those who live there to avoid. While the City has invested significant dollars in public safety and has reduced crime since incorporation, Tillicum's image very much remains a work in progress. One of the City's goals will be to change Tillicum's image as a means of attracting redevelopment. Tillicum's commercial district is also in need of a facelift, but without adequate infrastructure – specifically, road, stormwater and sewer improvements – there remains unwillingness on the part of the private market to invest.

Existing amenities such as American Lake and the adjacent Tacoma Country and Golf Club are important to consider. Opening up full access to Harry Todd Park by removing the chain link fence that surrounds it should be a priority. Removing the disconnection between the higher-end homes and the rest of Tillicum would create a more interconnected and diverse neighborhood. The City's current policy and regulations do not disallow gating of private roads, but such a measure should be considered to preclude the creation of additional socio-economic divisiveness.

Land Use, Zoning & Transportation

Zoning

The focus of Tillicum's commercial district is changing. With sewers and other improvements expected over the next two years, the potential for investment is improving. Sanitary sewer allows for commercial business expansion which for years has been stagnant. Thus, the future direction set by the comprehensive plan and the current zoning may not represent emerging market demands. City staff has conceptualized around the creation of two new commercial zoning classifications along Union Avenue SW to better reflect the market demands and redevelopment potential post-sewers.

Generally, the future land-use designation and zoning on the southeast side of Union Avenue SW – the lots fronting onto Union with the ST line and I-5 at the rear – could be modified to create a freeway commercial zone that accommodates businesses that typically serve the military installations, I-5 traffic, and tourists. The mitigating factor would be limited lot depths because of the public rights of way along both the front and rear of the strip.

Meanwhile, the opposite side of Union Avenue SW could lend itself to creation of a neighborhood commercial zone tailored for Tillicum (as opposed to the current NC2 zone that is applied citywide). This would focus commercial uses more toward serving the residents of Tillicum and create a step-down or separation between more intensive business activity and the neighborhood to the northwest. Mixed-use development with upper-story residential use seems most promising in this location as the area evolves and redevelops into a more conducive and positive living environment.

It is not the purpose of this plan to arrive at specific zoning regulations, but to create a basis for them to be further developed. It is likely these two primary concepts would be followed in designing new zoning for Union Avenue SW frontages.

Development Regulations & Design Standards

Though across the street from one another, any such new zones along Union Avenue SW would have considerably different land-use profiles. For this concept to work, revised design and performance standards would be required in order to establish some level of cohesiveness and integrated design. Available space is tight, and many of not just the commercial but also residential lots within Tillicum are small. As redevelopment takes place, it is likely that some of the current development regulations such as parking, landscaping, and building setbacks may prove to be problematic. Therefore, it would appear reasonable to reduce off-street parking, landscaping and setback requirements provided it does not inhibit public safety.

Design standards are also suggested as a means to promote small lot residential development. Such standards would cover such topics as driveway and curb cut standards, roof pitch, windows, exterior wall modulation, and garage locations. Along Union Avenue SW, it may prove advantageous to promote an urban scale of development, or the creation of a "traditional downtown" streetscape, not requiring the same landscaping and parking standards as is found in other commercial zoning districts.

Signs

The economic analysis has pointed out that Tillicum's location adjacent to the I-5 right of way is a key feature in promoting economic redevelopment. The creation of a freeway-oriented commercial zone begs the question as to whether or not the City would allow larger pole signs adjacent to the freeway. Interim zoning controls that existed during this plan's development allowed two types of pole signs referred to as Type C and Type D. Type C signs were allowed to be a maximum height of 20 feet, with 60 square feet of sign face. Type D signs were allowed to be a maximum height of 25 feet, with 120 square feet of sign face. The draft Tillicum Neighborhood Plan recommended that the City consider allowing taller pole signs and a proportionate increase in sign face in order to alleviate the current practice of fascia signage on the rear of buildings, which creates an unattractive, unprofessional image when viewed from the freeway.

In 2010, the Lakewood City Council adopted amendments to the sign code that addressed this issue. The now-in-effect sign code enables certain properties adjacent to I-5 or the ST right of way to have taller, larger pole signs in order to be more visible. Wall signs may also be used on the rear of a building that is, for example, fronting onto Union Avenue in order to be visible from I-5. Applicability varies depending on the specifics of the site and type of development; regulations are set in LMC 18A.50.655 (generally). Further refinements may be considered as the amended code is set into practice and new zoning is developed for the area.

Union Avenue SW Street Profile

The decision on a Union Avenue street profile left some questions remaining regarding the acquisition of additional right of way. Right-of-way expansion could cause either the relocation and/or demolition of some structures. It will reduce existing parking since much of it is located in the right of way; somehow this will need to be mitigated. A parking improvement district has merit but it is not feasible in that area businesses lack the financial ability to support such a program at this time. Another solution would be for the City to condemn private property and establish public parking lots, although there are no capital funds for such a program. Costs to acquire property and obtain professional engineering design services for a 60-foot right of way (keeping in mind that a portion is set at only 50 feet) were estimated at about \$3 million in 2007 dollars. This estimate does not include actual construction. The project is not included in the City's current transportation improvement program or capital facilities plan.

Gateways & Urban Design

Emphasizing entry points would improve the physical appearance of Tillicum and help reduce the psychological isolation created by the I-5 corridor. This concept emerged in the City's comprehensive plan. Further, the comprehensive plan puts forward ideas on creating landmark/activity nodes, civic boulevards, "green streets," and improving and upgrading existing recreation facilities at Harry Todd Park. A graphic illustration of an urban design framework was incorporated into the comprehensive plan and is included in this report within **Appendix A** (page 91). Many of these same concepts emerged in BCRA's *Progress!* document. Keep Lakewood Beautiful has installed a modest gateway at North Thorne Lane SW near the freeway interchange. However, gateways and urban design concepts have not moved forward for lack of funding.

Alleyways

One of the concepts BCRA presented in its *Progress!* document was the dedication and construction of alleyways for properties located on the water side of the Union Avenue SW. The alleyway concept serves several purposes. It supports the existing street grid system, allows for better traffic circulation, provides separation between commercial and residential uses, and could be used to downplay the visual clutter of overhead utility lines without involving the expense of undergrounding. There are a number of questions which must be addressed prior to undertaking the establishment of alleyways, though. Would the City require piecemeal right-of-way dedication when development was proposed, or would it be acquired all at once through condemnation? If alleys were to be dedicated as development mitigation, it would take a long time to see them constructed unless a private developer was able to assemble many adjoining properties all at once. This approach may also increase project construction costs which, in turn, may slow down redevelopment. The condemnation approach has its own difficulties. Property owners and elected officials tend to take a negative view of condemnation, plus there are no capital funds identified to carry out this type of project. Because of these difficulties, City staff is not including alleyways within this plan.

RECOMMENDATIONS

The following recommendations are drawn largely from the City's comprehensive plan, the results of BCRA's public outreach, existing programs, and pending projects. Goals are not guarantees or mandates; rather, they represent the results that the City and neighborhood hope to achieve. Following the goals are tasks. The tasks represent a general approach to achieving the goals. Carrying out these tasks will help to initiate change and, where incremental change has already begun, to hold the course. Still, it is important to recognize that realizing the goals will involve a range of actions over time. Implementing actions, together with suggested prioritization, are included in the recommended action tables that follow the goals and tasks.

Under the GMA, this neighborhood plan constitutes a subarea plan to the City's comprehensive plan, and as a policy document it is subject to non-project SEPA review which is being integrated with the plan as provided for in state law. Many of the specific action items, however, would be subject to more intense, project-level environmental review. Some of this work has already been accomplished, either for City projects or other initiatives, where work is pending. Where project-level SEPA review has already occurred, such as the sewer extension, these are noted in the SEPA checklist for this plan (**Appendix D**, page 147).

Goal 1: Develop community capacity

Encourage neighborhood leadership development and collaborative community involvement as a means of grassroots problem-solving.

Tasks:

1.1 Work with the Tillicum Action Committee, as the established community leadership team within Tillicum, or its successor group toward resolving community issues.

1.2 Dependent on the availability of private and public resources and a venue, promote the development of community outreach and life skills programs for youth.

1.3 Encourage public and private investment in human services, libraries, community centers, schools, and the arts to support Tillicum.

1.4 Support or foster relationships with educational institutions and organizations that encourage the development of higher education, apprenticeship and internship opportunities, and adult learning offerings to contribute to building community capacity and innovation.

Goal 2: Update infrastructure

Complete the sewer, water, and storm water infrastructure projects that are currently funded in the Tillicum and Woodbrook neighborhoods. Support the efforts of the school district to provide quality school facilities that function as focal points for family and community activity. Maintain a six-year capital facilities plan as a basis for seeking grants.

Tasks:

2.1 Institute a specific element for Tillicum within the City's statutorily required six-year capital facilities plan, incorporating the following major elements:

- Completion and implementation of the current phase of sewer trunk line and side sewer installations, including appurtenant stormwater and road restoration elements.
- Identify and seek funding for future extensions of the Tillicum/Woodbrook sewer system.

2.2 As part of working with WSDOT and other affected/involved agencies to develop and construct improvements to the I-5/Berkeley interchange, consider a revised intersection at Union Avenue SW/Berkeley Avenue SW that would fall within the capital facilities element referenced above. Inasmuch as possible, projects should be integrated and complementary to assure smooth functionality of the system. (See also 4.3 below.)

2.3 Work with the Lakewood Water District to perform water delivery system upgrades.

2.4 Work with the Clover Park School District to address the need for school facilities to serve Tillicum as redevelopment takes place.

Goal 3: Reduce crime and neglect

Enhance the ability of Tillicum citizens and the Lakewood Police Department to minimize crime through stepped up property maintenance enforcement and the implementation of public outreach programs.

Tasks:

3.1 Continue Lakewood's active enforcement of codes and public nuisance abatement aimed at improving property maintenance and building standards in residential neighborhoods to bolster neighborhood quality and the overall quality of life.

3.2 Continue targeted efforts such as the crime-free rental housing program and seek out a variety of funding sources for this and other such outreach programs.

3.3 Where public actions such as targeted crime reduction programs result in the unexpected displacement of people from their housing, coordinate the availability of social services to assist them in finding other shelter.

3.4 Maintain the City's current neighborhood patrol program in Tillicum.

3.5 Support and encourage community-based crime-prevention efforts through interaction and coordination with existing neighborhood watch groups, assistance in the formation of new neighborhood watch groups, and regular communication with neighborhood and civic organizations.

3.6 Increase participation in the crime-free housing program as a means of controlling crime related to rental properties.

3.7 Develop and implement a crime prevention through environmental design (CPTED) program that results in the creation of well-defined and defensible spaces by reviewing such things as proposed developments' demographic settings; intended uses; and landscaping, lighting, and building layout as a means of access control.

3.8 Seek ways to involve police with youth education, such as bike safety training, anti-drug courses, "cop in school" program, etc.

3.9 Work with the Tillicum community to develop a safety plan for Harry Todd Park.

Goal 4: Improve transportation into and within the area

Minimize the growth of traffic congestion. Balance the need for property access with traffic safety considerations. Apply standardized set of street classifications. Find new sources of revenue to upgrade streets and key intersections in Tillicum.

Tasks:

4.1 Develop "civic boulevard" design standards for the following streets:³³

- North Thorne Lane SW from I-5 to Portland Avenue SW
- West Thorne Lane SW between Portland Street SW and Union Avenue
- Portland Street SW between North Thorne Lane SW and West Thorne Lane SW
- Union Avenue from Berkeley Avenue SW to Spruce Street SW
- Spruce Street SW from Union Avenues SW to Portland Avenues SW

4.2 Develop "major gateway" design standards for the following streets:

- North Thorne Lane SW at I-5
- Berkeley Avenue SW at I-5

4.3 Work with Camp Murray, JBLM, WSDOT, and ST to improve the Berkeley Avenue SW/Union Avenue SW intersection. (See also 2.2 above.)

4.4 Seek a method of providing an alternate connection between Tillicum and the northern part of the city besides I-5.

³³ Improvements have occurred to the last three streets listed as part of the immediate sewer project, which will direct further improvements to these streets in the future.

4.5 Provide opportunities for pedestrian and bicycle connections from Tillicum to other portions of Lakewood.

4.6 Consider a pedestrian and bicycle trail within Tillicum to safely connect the residential area with the business district. Examine the potential of a two-mile loop trail connecting Union Avenue SW, Spruce Street SW, Woodlawn Street SW, and N. Thorne Lane SW.

4.7 In partnerships with private and public property owners and organizations, establish a Tillicum gateway enhancement program at the entrances to Tillicum.

4.8 Develop flexible off-street parking requirements and encourage transit use, walking, and bicycling.

4.9 Allow flexibility for shared use of off-street parking along Union Avenue SW, Berkeley Street SW, and other key arterials in Tillicum.

4.10 Seek out grants or other means of financing to design and construct improvements to intersections nearest to and serving I-5 interchanges, and work with WSDOT to seek funding for improvements to the interchanges themselves.

4.11 Use the outcome of the current planning process being funded by the Office of Economic Adjustment to direct redevelopment of key Tillicum intersections affected by military traffic.

Goal 5: Revitalize and upgrade residential and commercial areas

Identify where more dense, mixed-use development can be used to offer affordable housing opportunities within walking distance of amenities. Improve residential areas and streets to enhance the neighborhood appeal.

Tasks:

5.1 Develop new comprehensive plan designations and zoning classifications to be applied along Union Avenue SW, which would result in the placement of traveler services along the I-5 side of Union Avenue SW and neighborhood services on the other side.

5.2 Consider disallowing any additional gated communities as an impediment to social integration within neighborhoods.

5.3 Minimize the impact of infill development upon existing development by incorporating, to the maximum extent possible, features which impart a unique identity and sense of coherence.

5.4 Require that on-site amenities such as walkways, trails, or bike paths be connected to adjacent public facilities.

5.5 Establish public programs and/or public-private partnerships to encourage and assist redevelopment of outdated or substandard multi-family dwellings aimed at providing opportunities for affordable housing.

Goal 6: Provide a mix of housing opportunities

Enhance social and economic diversity within Tillicum by mixing affordable housing in with new market-rate development.

Tasks:

- 6.1** Encourage and support efforts to increase home ownership.
- 6.2** Support agencies and organizations that provide housing and related services to very low-, low-, and moderate-income households, and encourage their acquisition of affordable rental housing.
- 6.3** Provide for a variety of housing options in the city to support the unique housing requirements of the military personnel and their families.
- 6.4** Adopt a cottage housing ordinance.
- 6.5** Revisit the City's adopted housing incentives program (LMC 18A.50.710) and update it as appropriate to utilize such tools as density bonuses, fee waivers, reduced zoning requirements, and expedited permitting. Consider marketing efforts to stimulate use of the program.
- 6.6** Promulgate preapproved base plans for single-family construction specific to the Tillicum area. Offer these plans to individuals proposing to construct owner-occupied housing.
- 6.7** Collaborate with the Master Builders Association to provide technical assistance/education to developers to encourage greater use of green standards.
- 6.8** Develop a regulatory strategy to allow for the great house concept.

Goal 7: Expand access to American Lake

Make American Lake more accessible to Tillicum residents and visitors by identifying and enhancing more public access points to the lake, providing public amenities, and improving disabled access to the shoreline.

Tasks:

- 7.1** Expand public ownership of shorelines and opportunities for access to lakes.
- 7.2** Identify additional opportunities to provide public access to American Lake within Tillicum.
- 7.3** Install planned ADA improvements at Harry Todd Park.

Goal 8: Enhance and protect Tillicum's natural environment

Protect forest cover, riparian habitat, air quality, and the quality of groundwater flowing into American Lake.

Tasks:

8.1 Assist Tillicum's revitalization through the thoughtful placement and improvement of parks and recreational activities.

8.2 Identify opportunities for additional public/semi-public green space in Tillicum.

8.3 Work cooperatively with development interests to protect aquifers and surface water by the gradual extension of sanitary sewers and replacement of stormwater systems with priority for those areas bordering or hydrologically related to American Lake.

8.4 Utilize creative stormwater management techniques such as green roofs, rain gardens, and/or vegetated bioswales to purify water before it enters the ecosystem.

Goal 9: Maintain a sensitivity to the area's history and historical elements

Promote Tillicum's unique heritage, foster civic pride and honor past accomplishments, and use landmarks as a means to advance economic redevelopment.

Tasks:

9.1 Direct the City's Historic Preservation Officer to work with the City's Landmarks and Heritage Advisory Board to produce a brochure on Tillicum's history.

9.2 Work with the City's Landmarks and Heritage Advisory Board and the Lakewood Historical Society to install historic markers at selected locations in Tillicum.

IMPLEMENTATION STRATEGIES

The following tables list specific implementation strategies for the *Tillicum Neighborhood Plan*. The actions included within these tables are tied to the goals and tasks listed in the previous section and go on to set priorities and time frames. They are intended to provide guidance to decision makers as they seek to implement the recommended actions.

Implementation of near-term actions will be sought in the next five years. Long-term actions may be implemented over the next 20 years. Actions that have both near-term and long-term components are best implemented as an ongoing activity over the next 20 years or may have multiple steps that require action at different times.

All of the strategies in this plan are important, and it is difficult to rank them in priority as there are so many pressing needs in Tillicum. The priorities are not intended to provide a "hard" schedule but rather a sense of the relative importance among the strategies in the plan. It is staff's expectation that the public review and adoption process will be used to vet and refine these priorities.

TABLE 16
ACRONYMS USED IN IMPLEMENTATION STRATEGIES

CA	City administration (may refer to any city department, as applicable)	LHAB	Landmarks & Heritage Advisory Board (City)
CC	City Council	LWD	Lakewood Water District
CM	City Manager	MD	Wash. State Military Department (Camp Murray)
COMMUNITY	Tillicum residents, property owners, businesses & social svcs. providers	PAB	Planning Advisory Board (City)
CPSD	Clover Park School District	PC	Pierce College
CPTC	Clover Park Technical College	PT	Pierce Transit
CTAC	Citizens' Transportation Advisory Committee (City)	PSE	Puget Sound Energy
FIRE	West Pierce Fire & Rescue	TAC	Tillicum Action Committee
JBLM	Joint Base Lewis McChord	USPS	United States Postal Service
		WSDOT	Wash. State Dept. of Transportation

TABLE 17
ACTION ITEMS: COMMUNITY CAPACITY DEVELOPMENT

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
A-1	Recognize the Tillicum Action Committee (TAC) as the community leadership team and primary point of community organizing for Tillicum. Explore whether the existing merchants' & neighborhood associations could be rechanneled into the community leadership team, or if those associations wish to continue to exist independently.	CC, CA, TAC & COMMUNITY	Near-term (2011)	High
A-2	Identify & appropriate funding to support the development of community outreach & life skills programs utilizing existing community facilities such as the Tillicum/American Lake Gardens Community Service Center, PCLS Library, &/or Youth & Family Center.	CC & CA	Near- & long-term (2011-2015)	High

TABLE 18
ACTION ITEMS: UPDATE INFRASTRUCTURE

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
B-1	Complete implementation of major sewer trunk line & side sewers in selected parts in Tillicum.	CA	Near-term (2011)	High
B-2	Determine & work toward outcome for Tillicum Elementary School.	CPSD, CA, CPTC, & PC	Long-term (date unknown)	High (lack of funding)
B-3	Prepare & maintain an ongoing capital facilities plan to prioritize & direct City capital investment.	CA, CM, CC	Immediate need (2011)	High
B-4	Monitor & pursue concurrency with outside agency (such as utilities, fire, schools, etc.) capital improvement projects & programs.	CA	Near- & long-term	High
B-5	Monitor implementation of the completed PCLS master planning process re Tillicum branch.	PCLS, CPSD, & CA	Near-term (2011-2015)	Medium

TABLE 18 (CONTINUED)
ACTION ITEMS: UPDATE INFRASTRUCTURE

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
B-6	Make minor improvements to Harry Todd Park: <ul style="list-style-type: none"> ▪ Install trash enclosures with gates ▪ Install new playground border (wood chips) ▪ Install paved walking path around the park ▪ Resurface tennis/skate park area ▪ Remove perimeter fence at the park once a Park Watch team has been established & is in operation 	CA	Near-term (2013)	Medium
B-7	Require commercial, institutional and multi-family developments to provide protected & secure bicycle parking.	CA	Near-term	Medium
B-8	Make major improvements to Harry Todd Park: <ul style="list-style-type: none"> ▪ Repair existing docks ▪ Install new docks ▪ Install ADA improvements at Harry Todd Park ▪ Redesign Harry Todd park with realignment of Maple Street SW 	CA & TAC	Long-term (date unknown)	Low (lack of funding)
B-9	Develop/expand gateways that mark the entrances to Tillicum.	CA & TAC	Near-term (2013)	Low (lack of funding)
B-10	Improve facilities in community centers, school & parks to provide facilities for after-school & weekend activities for youth.	CA, CPSD & COMMUNITY	Long-term (date unknown)	Low (lack of funding)

TABLE 19
ACTION ITEMS: REDUCE CRIME & NEGLECT

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
C-1	Maintain funding for the neighborhood patrol program in Tillicum to support neighborhood watch groups & provide regular communication with neighborhood & civic organizations.	CA & CC	Near-term (2011-2015)	High
C-2	Maintain funding for public nuisance abatement aimed at improving property maintenance & building standards.	CA & CC	Near-term (2011-2015)	High
C-3	Finalize development of & carry out a Neighborhood Stabilization Program to address neighborhood blight, including purchasing & rehabilitating residential properties for redevelopment by Habitat for Humanity to provide homeownership.	CA	Near-term (2011-2015)	High
C-4	Provide development preapplication packets to the Police Department & include their feedback on design from a CPTED perspective.	CA	Near-term (2011-2013)	High
C-5	Use the community service & code enforcement officer positions to proactively ensure all Tillicum businesses & rental housing are properly licensed.	CA	Near-term (2011-2013)	High
C-6	Develop a safety plan for Harry Todd Park.	CA & COMMUNITY	Near-term (2011-2013)	High

TABLE 20
ACTION ITEMS: TRANSPORTATION IMPROVEMENTS

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
D-1	Establish bicycle & pedestrian connections between residential areas, Union Avenue SW, & Harry Todd Park	CA, PAB, & CTAC	Near-term (2011)	High
D-2	Initiate formal discussions with other agencies regarding improvements to the I-5, Union Avenue SW, & Berkeley Street SW road intersections.	CA, MD, JBLM, WSDOT & COMMUNITY	Near-term (2011)	High
D-3	Work with the Tacoma Country & Golf Club establish a preliminary pedestrian pathway design to connect Tillicum with the main body of Lakewood.	CA	Near-term	High ³⁴
D-4	Seek additional funding to upgrade the following streets/intersections: <ul style="list-style-type: none"> Union Avenue SW from Berkeley Street SW to West Thorne Lane SW Berkeley Street SW/Union Avenue SW intersection Realignment of Maple Street SW at Harry Todd Park Maple Street SW from Union Avenue SW to Harry Todd Park 	CA	Near- & long-term	High High Low Low
D-5	Identify bus stops with inadequate lighting & improve lighting at these stops. Examine the need for more shelters & posted schedules. Provide the telephone number of Pierce Transit's community liaison at bus stops.	CA & PT	Near- & long-term	Medium
D-6	Periodically review & update routes & frequency of transit bus lines with community input. Provide timely notification of route & service changes.	CA & PT	Near- & long-term	Medium
D-7	As properties redevelop along Union Avenue SW, explore opportunities to create adequate street frontage to provide new on-street parking.	CA	Near-term (2011-2015)	Medium
D-8	Address the need for on-street parking by small businesses.	CA	Near-term (2011)	Medium
D-9	Establish street design guidelines for other streets including North Thorne Lane SW, Woodlawn Avenue SW, Maple Street SW, West Thorne Lane SW, & portions of Portland Avenue SW and Berkeley Street SW	CC, CA & COMMUNITY	Near-term (2013)	Medium
D-10	Monitor the Pt. Defiance Bypass project	CA & CC	Near- & long-term	High
D-11	Monitor & support funding for the Cross-Base Highway project	CA & CC	Near- & long-term	Low
D-12	Establish "green street" designations & associated improvements, including sidewalks, landscaping, bike lanes, crosswalks, & lighting, for Union Avenue SW, North Thorne Lane SW, Woodlawn Avenue SW, & West Thorne Lane SW. Seek compatibility between the provision of bicycle lanes & vehicular parking.	CC, PAB, CA, & COMMUNITY	Long-term	Low (lack of funding)

³⁴ Stimulus funding may become available for this work.

TABLE 20 (CONTINUED)
ACTION ITEMS: TRANSPORTATION IMPROVEMENTS

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
D-13	Install pedestrian signals on streets with high-traffic volumes.	CA	Near-term (2015)	Low
D-14	Require commercial, institutional & multi-family developments to provide protected & secure bicycle parking.	CA	Near- & long-term	Low
D-15	Reconstruct the I-5/Berkeley Interchange	WSDOT	Long-term	High (lack of funding)

TABLE 21
ACTION ITEMS: RESIDENTIAL & COMMERCIAL REVITALIZATION

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
E-1	Develop a marketing program to improve perceptions of the Tillicum neighborhood & promote the neighborhood as a desirable & affordable place to live.	CA, TAC & COMMUNITY	Near-term (2011)	Medium
E-2	Develop & adopt new zoning classifications to implement freeway-oriented commercial on the I-5 side of Union Avenue SW & tailored neighborhood commercial on the opposite side.	CA, COMMUNITY, PAB, & CC	Near-term (2012)	High
E-3	Amend the City's development regulations to enable innovative layouts, designs & configurations such as Z-lots, great house design, & cottage housing.	CA, COMMUNITY, PAB, & CC	Near-term (2012)	High
E-4	Amend the City's development regulations to require a greater level of design for small lot residential development & for commercial development located along Union Avenue SW.	CA, COMMUNITY, PAB & CC	Near-term (2012)	High
E-5	Update the City's current subdivision regulations, including the establishment of new regulations for condominiums & townhouses, & new design standards for small lots. Consider automatic consolidation of outdated "skinny-mini" lots.	CA, COMMUNITY, PAB, & CC	Near-term (2011)	High
E-6	Establish a contract post office on Union Avenue SW	CA, TAC & USPS	Near-term (2012)	Medium
E-7	Allow a reduction in the amount of off-street parking based on a parking study prepared by a registered professional engineer.	CA, COMMUNITY, PAB, & CC	Near-term (2012)	High
E-8	Support driveway consolidation & shared use of parking lots by Tillicum businesses.	CA & COMMUNITY	Near- & long-term	High
E-9	Prepare a utility plan for Union Avenue SW. <ul style="list-style-type: none"> ▪ Determine the desirability & cost of placing utilities underground ▪ Work with utility purveyors to underground existing utilities ▪ Survey property owners to determine willingness to participate in a local improvement district (LID) ▪ Form an LID if property owners are in favor of doing so ▪ Work with present and future developers to ensure conformance with this action 	CA, PSE, LWD & COMMUNITY	Near-term (2012-2013)	High

TABLE 21 (CONTINUED)
ACTION ITEMS: RESIDENTIAL & COMMERCIAL REVITALIZATION

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
E-10	Monitor development activity to identify regulatory &/or cost barriers that discourage investment in Tillicum.	CA	Near- & long-term	Medium
E-11	Review Housing Incentives Program (LMC 18A.50); potentially adjust inclusionary housing, density bonuses, development standards modification, & fee reductions.	CA	Near-term (2012)	High

TABLE 22
ACTION ITEMS: ENHANCE HOUSING OPPORTUNITIES

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
F-1	Where feasible, use CDBG funding to enable owner-occupied residences to connect to the City's sewer system.	CA	Near-term (2011- 2013)	High
F-2	Initiate discussions with other agencies to consider a program of reducing/waiving development &/or capacity fees as a means of promoting housing affordability.	CC, CA, & CM	Near-term (2011- 2013)	High
F-3	Identify & take action against landlords who violate City codes, particularly building standards & garbage removal requirements.	CA	Near-term (2011-2013)	High
F-4	Where appropriate, apply revised zoning regulations which remove impediments to urban infill and rehabilitation of existing housing stock.	CA, PAB, COMMUNITY & CC	Near-term (2012-2015)	High
F-5	Provide the news media with information about potential apartment closures.	CM	Immediate	High
F-6	Vigorously enforce the 1997 Uniform Code for the Abatement of Dangerous Buildings (or subsequent code as may be adopted in the future).	CA & FIRE	Near-term (2011-2015)	High
F-7	Vigorously enforce the 2006 International Property Maintenance Code.	CA & FIRE	Near-term (2011-2015)	High (lack of funding)
F-8	Provide sufficient funds to relocate eligible individuals & families who are forced to move from their residences because of serious health & safety violations.	CA	Near-term (2011-2015)	High (lack of funding)
F-9	Aggressively seek compensation from property owners where the City is forced to close housing units for health and safety reasons.	CA	Near-term (2011-2015)	High (lack of funding)
F-10	Build at least one Habitat for Humanity home in Tillicum per year.	CA & COMMUNITY	Near-term (2011-2015)	Medium

TABLE 22 (CONTINUED)
ACTION ITEMS: ENHANCE HOUSING OPPORTUNITIES

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
F-12	Seek new sources of housing subsidies for affordable housing. Work with non-profit corporations, investors, & financial brokers to secure funds which can be used to expand opportunities for lower-cost home ownership & affordable rental housing.	CA	Near- & long-term	Medium
F-13	Establish an incentive awards program for well-maintained & trouble-free rentals.	CLT & CA	Near-term (2012)	Medium
F-14	Promote community awareness of financial subsidies available from public agencies for property & home improvement.	CA	Near-term (2012)	Medium
F-15	Once sewers have been installed, consider use of the multi-family tax incentive program to target multi-family growth into selected parts of Tillicum.	CA, COMMUNITY, PAB & CC	Near-term (2012-2014)	Medium
F-16	Hold joint landlord training sessions with the Tillicum and Woodbrook neighborhoods.	CA	Near-term (2012)	Low (lack of funding)
F-17	Seek to increase the amount of transitional housing for homeless families & domestic violence victims.	CA	Near- & long-term	Low (lack of funding)

TABLE 23
ACTION ITEMS: AMERICAN LAKE ACCESS

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
G-1	See action no. B-8.	-	-	-

TABLE 24
ACTION ITEMS: ENVIRONMENTAL PROTECTION

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
H-1	Complete statutorily required shoreline master program update.	CA, PAB & CC	Near-term (adopt by 2011 deadline)	High

TABLE 25
ACTION ITEMS: HISTORIC PRESERVATION

NO.	WHAT	WHO	WHEN	RECOMMENDED PRIORITY
I-1	Produce a brochure on Tillicum's history.	CA & LHAB	2011	High

LONG-RANGE STRATEGIES

In addition to the specific actions suggested above, a number of strategies emerged through this plan's development that are thought to be outside of a foreseeable window. Certain actions cannot occur until a certain degree of evolution has occurred in other areas; while others may be part of broader citywide initiatives that affect Tillicum. These are included here in unranked order as potential later-phase items, once more immediate priorities have been addressed.

- Consider realignment of the main entrance to Harry Todd Park in a manner that better relates to residential areas and creates more favorable access, in order to encourage its use by the community.
- Expand the children's play area within Harry Todd Park.
- Develop a regional model, based on Harry Todd Park, for sustainable park development and maintenance.
- Support the use of green roofs, green walls, vegetated swales, and other such strategies to replace traditional detention techniques where appropriate to slow and cleanse stormwater.
- Implement low-impact development, "green streets," and targeted urban design strategies.
- Implement stronger design standards for commercial and multifamily development, including such items as location, materials, façade treatments, roof forms, pedestrian connectivity, landscaping, awnings, and signage.
- Examine where incentives may be used to encourage sustainable development employing such standards as LEED® Silver for commercial structures and BuiltGreen™ 4-star or better for multifamily development.
- Encourage street designs and plantings to increase canopy coverage, landscaping, and use of native species to beautify and enhance ecological value.
- Improve regional transit connectivity with Tillicum. If Sound Transit service is extended southward, seek placement of an additional station in Tillicum.
- Identify and encourage other community-based services that support neighborhoods and families, such as low-cost medical care providers.
- Develop a program for acquiring additional right of way along portions of Union Avenue SW in order to facilitate further improvements. In the future, expand "civic boulevard" design standards to include Portland Avenue SW between North Thorne Lane SW and West Thorne Lane SW, Union Avenue SW from Berkeley Avenue SW to Spruce Street SW, and Spruce Street SW from Union Avenue SW to Portland Avenue SW.
- As additional development occurs within Tillicum and public surveillance opportunities are improved, seek additional opportunities to enhance and expand nonmotorized transportation opportunities.

APPENDIX A

Excerpts from the *City of Lakewood Comprehensive Plan* specific to Tillicum

3.10 Isolated Areas

Lakewood has three significant areas that are geographically isolated from the rest of the city: Springbrook, American Lake Gardens, and Tillicum. The first two are separated from the rest of the city by I-5 and are bordered on several sides by fenced military installations. The third is geographically contiguous to other parts of the city, but there are no direct road connections between Tillicum and other Lakewood neighborhoods.

As a result of this isolation, all three neighborhoods exhibit signs of neglect. Both American Lake Gardens and Tillicum lack sewer systems, and most property is old, run down, and undervalued. Springbrook is dominated by a chaotic assortment of land uses arranged according to a dysfunctional street pattern. Despite relatively high-density housing, Springbrook's residents lack schools, parks, or even basic commercial services. Given the multitude of crime and health problems plaguing these areas, unique approaches are needed for each neighborhood and are presented in the goals and policies below. Additional recommendations for Tillicum are included in Chapter 4, while Chapter 5 addresses economic development in American Lake Gardens.

GOAL LU-51: Minimize the impacts of geographic isolation of the Tillicum, Springbrook, and American Lake Gardens areas and focus capital improvements there to upgrade the public environment.

Policies:

LU-51.1: Provide for commercial and service uses for the daily needs of the residents within the neighborhoods.

LU-51.2: Support the expansion of recreation and open space.

LU-51.3: Provide pedestrian and bicycle paths within the neighborhoods and which connect to other neighborhoods.

GOAL LU-52: Improve the quality of life for residents of Tillicum.

Policies:

LU-52.1: Enhance the physical environment of Tillicum through improvements to sidewalks, pedestrian-oriented lighting, street trees, and other pedestrian amenities.

LU-52.2: Promote integration of Tillicum with the American Lake shoreline through improved physical connections, protected view corridors, trails, and additional designated parks and open space.

LU-52.3: Identify additional opportunities to provide public access to American Lake within Tillicum.

LU-52.4: Seek a method of providing alternate connection between Tillicum and the northern part of the city besides I-5.

4.5.3 Tillicum

The Tillicum neighborhood functions as a separate small village within Lakewood. Accessible only by freeway ramps at the north and south end of the area, it has its own commercial sector; moderately dense residential development; and an elementary school, library, and park. Tillicum is a very walkable neighborhood with a tight street grid and relatively low speed traffic. Harry Todd Park is one of the largest City-owned parks, and Tillicum is one of the few neighborhoods in the city with public waterfront access.

In public meetings discussing alternative plans for the city, Tillicum emerged as a neighborhood viewed as having significant potential for residential growth over the next 20 years. With a traditional street grid, significant public open space and lake access, and strong regional transportation connections, there is a major opportunity for Tillicum to evolve into a more urban, pedestrian-oriented community. This is further enhanced by the long-range potential for a commuter rail station and new highway connection to the east.

A significant constraint to realizing this vision is the lack of sewers in Tillicum. Extension of the sewer to Tillicum would be very expensive, with the cost of the distribution system through the streets being the most costly aspect. The City is committed to the sewerage of Tillicum by 2017; however, sewer extension is dependent on the successful redevelopment of American Lake Gardens as an industrial area, including private development of sewers east of I-5. The development of multi-family housing in Tillicum will not be possible until sewer hookups are available. In addition to sewer development, there are other actions the City can take in support of the development of multi-family housing in Tillicum including: development of a long-range plan for Harry Todd Park and implementation of specific improvements to expand its capacity;

- development of a pedestrian connection between the park and commercial district along Maple Street, with sidewalks, curb ramps, crosswalks, lighting, and other improvements;
- improvements at the I-5 interchanges to create attractive, welcoming gateways; and
- a pedestrian/bikeway easement north along the railroad or through the country club to other portions of Lakewood.

The urban design framework plan for Tillicum is shown in Figure 4.4. Some of the specific urban design actions which could be undertaken in Tillicum include:

Landmark/Activity Nodes: The northern entrance into Tillicum, as well as the only entrance into American Lake Gardens, is at the Thorne Lane overpass and I-5. It would be improved as a civic gateway, with landscaping, road improvements, signage, and other elements as needed.

Civic Boulevards: As the main entrance road into Tillicum and the perimeter road embracing multi-family development, Thorne Lane would be improved as a civic boulevard. Development intensification in Tillicum would occur east of Thorne Lane, with W. Thorne Lane marking the initial southern boundary of the sewer extension to keep costs in check. Potential improvements of Union Street in support of commercial functions would include such elements as pedestrian improvements, parking, landscaping, lighting, and other functional items. Long-range planning would also identify site requirements for the potential future commuter rail stop and proposes strategies to fulfill these needs.

Green Streets: Maple Street would be improved as a green street to provide a pedestrian-oriented connection between the lake and Harry Todd Park at one end, and the commercial district/future rail station at the other. In between, it would also serve the school and the library. It would serve as a natural spine, gathering pedestrian traffic from the surrounding blocks of multi-family housing and providing safe access to recreation, shopping, and public transportation.

Open Space: Harry Todd Park would be improved by upgrading existing recreation facilities and constructing additional day use facilities such as picnic shelters and restrooms. A regional biking/hiking trail connecting Tillicum to the Ponders Corner area could be built along an easement granted by various landowners, principally the Tacoma Country and Golf Club and Burlington Northern Railroad.

GOAL UD-10: Promote the evolution of Tillicum into a vital higher density pedestrian-oriented neighborhood through application of urban design principles.

Policies:

UD-10.1: Identify opportunities for additional public/semi-public green space in Tillicum.

UD-10.2: Provide opportunities for pedestrian and bicycle connections from Tillicum to other portions of Lakewood.

UD-10.3: Improve identified civic boulevards, gateways, and green streets within Tillicum to provide a unifying and distinctive character.

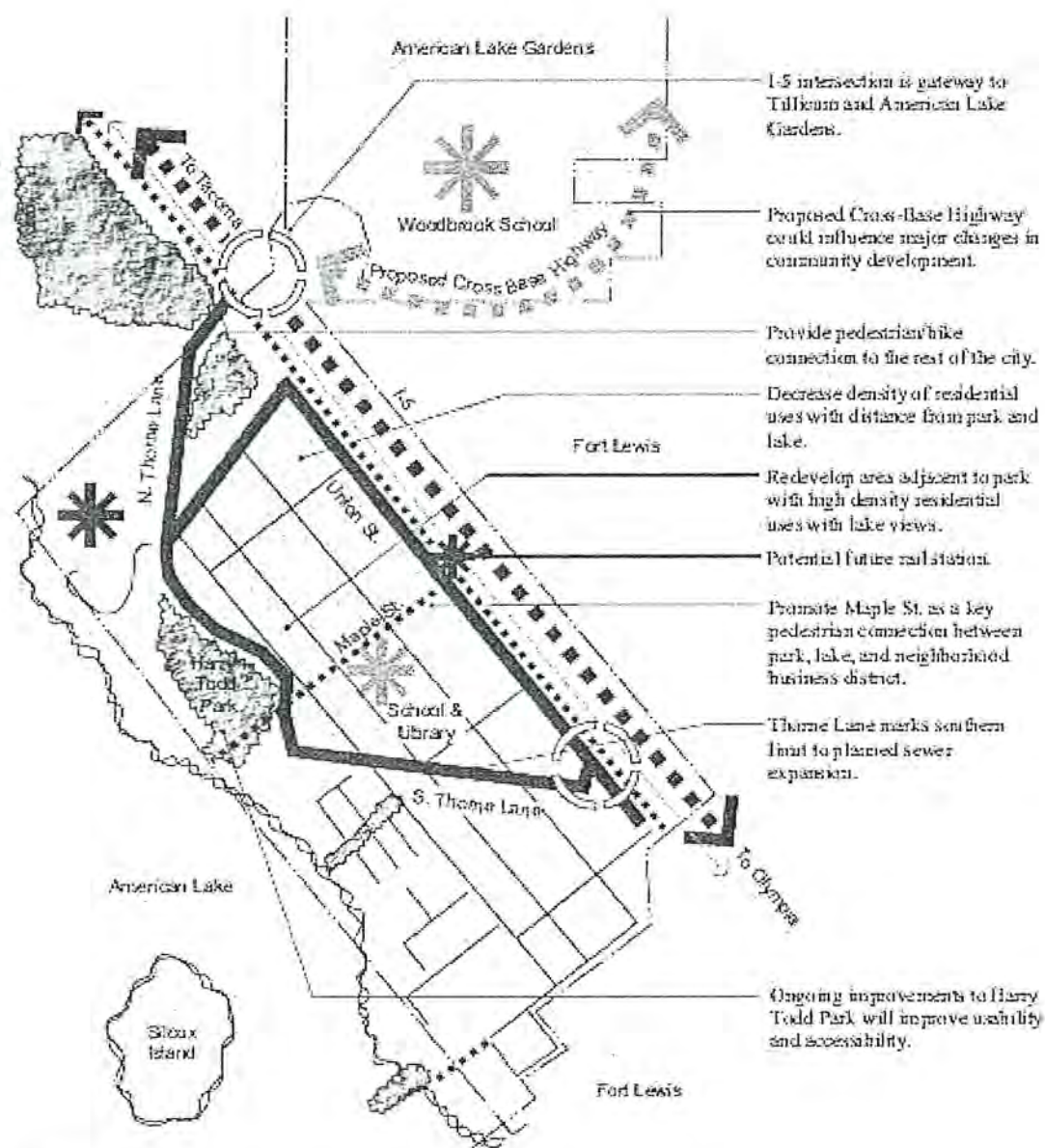
GOAL UD-12: Facilitate implementation of gateway enhancement programs in Tillicum, Springbrook, and American Lake Gardens.

Policies:

UD-12.1: Establish a program to design and implement a gateway enhancement plan at the entrances to each neighborhood.

UD-12.2: Work with private and public property owners and organizations to create and implement the gateway plans.

UD-12.3: Work with the WSDOT or successor agency to facilitate the future incorporation of sound barriers adjacent to these communities along I-5 to reduce noise impacts to residential areas.



LEGEND:

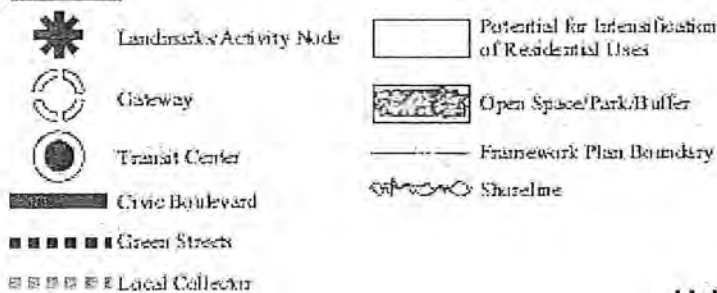


Figure 4.4
Urban Design Framework
for Tillicum

SOURCE: ED&W, Inc. 1999.

APPENDIX B

Mitigation Conditions from the American Lake Gardens (ALG)/Tillicum Sewer Extension Environmental Assessment (2007)

- The project construction must adhere to all applicable air quality regulations. Measures to minimize the impact to air quality should include covering and wetting down of soil, frequent sweeping and washing of streets, washing tires and undercarriages of vehicles, and minimizing idle times for construction trucks and machinery.
- Prior to construction a Spill Prevention, Control, and Countermeasures Plan (SPCC) and a Temporary Erosion and Sedimentation Control Plan (TESC) will be developed and implemented, to control stormwater management during construction, reduce the amount of sediment leaving the construction site, and develop a plan for prompt containment and cleanup of any spills. Construction best management practices (BMPs) will be followed to minimize erosion and sediment runoff.
- Any portion of the project located within the flood hazard area will be designed to meet flood-proofing and/or flood protection elevation requirements under local development regulations for flood hazard areas.
- When construction will occur during sensitive time for wildlife (for example, nesting months) pre-construction surveys will be performed for listed species including bald eagle and other special-status plants and species to avoid or minimize impacts during construction.
- All water, from dewatering operations, will be managed and treated in accordance with NPDES construction standards and requirements prior to discharge to minimize turbidity, sedimentation, and the potential for erosion.
- In the event that materials of cultural archaeological significance are discovered during construction, work shall be halted immediately, the site secured, and EPA, the State Historic Preservation Officer, the Department of Ecology, and the potentially affected Tribes shall be notified and consulted.
- Excavated areas will be backfilled, as soon as possible, and street segments disturbed by construction will be restored to their original condition.
- Clearing of vegetation will be kept to a minimum and disturbed areas revegetated with native species, as soon as possible.
- Temporary fencing and signs will be posted near the construction areas to notify residents of road closures and/or detours.
- EPA shall be contacted if there are any significant changes to the proposed project.

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APPENDIX C

Traffic Study³⁵

³⁵ This originally appeared as Appendix D of the American Lake Gardens Sewer Extension Environmental Assessment. To avoid confusion, the original title page for this document was deleted.

TECHNICAL MEMORANDUM

Date: April 27, 2007
To: Jenny Bailey
From: Peter Chen and Sandra Fann, P.E.
Subject: Traffic Analysis
cc: John Perlic, P.E.
Project Number: 555-3047-005
Project Name: American Lake Gardens and Tillicum Sewer Extension – Traffic Study

This technical memorandum documents the traffic impacts and potential need for mitigation to the local transportation network that could result from a sewer system extension into the American Lake Gardens and the Tillicum neighborhoods in the City of Lakewood. For the purposes of this study, it was assumed that the sewer system extension would facilitate redevelopment in the project area to support light industrial uses and other land use changes based on current zoning, as described in the City of Lakewood Comprehensive Plan. The findings of the traffic study will be used to support the American Lake Gardens and Tillicum Sewer Extension Environmental Assessment (EA).

1 PROJECT DESCRIPTION

The City of Lakewood is proposing to extend sewer service to the communities of Tillicum and American Lake Gardens, which are the two major areas within the City of Lakewood currently not served by sewer. These communities currently rely on septic systems, which, in some cases, are failing and posing potential adverse impacts to human health and the environment. Property owners and developers have been limited in their efforts to develop new systems or rehabilitate existing systems because of increasingly stringent regulations and requirements applicable to such projects. Therefore, some multi-family residences are not fully occupied and some businesses offer limited services due to septic limitations.

In connection with the sewer extension, the City's most recent Comprehensive Plan (2000) adopted revisions to the zoning designations in these communities that support a long-range vision in which a portion of American Lake Gardens would be converted to industrial use to create jobs, and Tillicum would be rejuvenated for residential growth. In addition, the new zoning would better consolidate similar land uses and remove the existing non-conforming uses that were developed prior to the existing zoning codes.

The sewer line extension and changes in zoning designations are expected to increase local traffic volumes since currently underdeveloped and underutilized properties could be built out to full potential. Based on these expected changes, the City of Lakewood identified five key locations where traffic operations would experience the most substantial effects from redevelopment. These intersections, shown on Figure 1, are analyzed in this traffic study and include:

- I-5 northbound ramps at Murray Road SW (signalized)
- I-5 southbound ramps at Thorne Lane SW (signalized)

TECHNICAL MEMORANDUM (CONTINUED)

- Murray Road SW at 150th Street SW (all-way stop-controlled)
- I-5 northbound ramps at Jackson Avenue (signalized)
- I-5 southbound ramps at Berkeley Street SW (signalized)

2 EXISTING CONDITIONS

2.1 Functional Classifications and Roadway Characteristics

Roadways within the study area that are expected to experience the majority of traffic operational effects associated with the project include:

- I-5 is an eight-lane freeway north of the Thorne Lane SW/Murray Road SW interchange (milepost [MP] 123.58) that narrows to six lanes prior to the Berkeley Street SW/Jackson Avenue interchange (MP 122.68) to the south. This north-south freeway accommodates regional travel and provides access to the Fort Lewis Military Reservation and McChord Air Force Base. The Thorne Lane SW/Murray Road SW and Berkeley Street SW/Jackson Avenue interchanges are the primary connections between I-5 and the communities of Tillicum and American Lake Gardens.
- Murray Road SW is a two-lane minor collector arterial located on the east side of I-5 (opposite from Thorne Lane SW) at the Thorne Lane SW/Murray Road SW interchange. Murray Road SW is a north-south roadway with 4- to 8-foot gravel shoulders on both sides and has a speed limit of 35 mph. Murray Road SW provides a connection between the Fort Lewis Military Reservation, McChord Air Force Base, and American Lake Gardens to I-5.
- Thorne Lane SW is a two-lane collector arterial located on the west side of I-5 (opposite from Murray Road SW) at the Thorne Lane SW/Murray Road SW interchange. This east-west roadway has 4- to 6-foot paved shoulders on both sides and has a speed limit of 25 mph. Thorne Lane SW is one of two primary routes that provide access to and from I-5 into the Tillicum area of Lakewood.
- Berkeley Street SW is a two-lane collector arterial providing access to Tillicum and Washington National Guard Headquarters at Camp Murray. This east-west roadway has 4- to 6-foot gravel shoulders on both sides and has a speed limit of 25 mph. Berkeley Street SW is one of two primary routes that provide access to and from I-5 into the Tillicum area of Lakewood. East of I-5, Berkeley Street SW becomes Jackson Avenue and provides access to Fort Lewis and Madigan Hospital.
- 150th Street SW is a two-lane minor collector arterial with 4- to 10-foot gravel shoulders on both sides of the roadway. 150th Street SW has a speed limit of 35 mph, and extends from Murray Road, continuing east to E Lincoln Drive. 150th Street provides a route from American Lake Gardens to McChord Air Force Base and Fort Lewis Military Reservation. Traffic volumes (and congestion) on 150th Street SW are also affected by traffic generated from Woodbrook Middle School, located on the corner of Spring Street and 150th Street SW.

2.2 Land Use and Zoning

Existing land use in the Tillicum community is shown on Figure 2. Properties in Tillicum predominately accommodate single-family residences intermingled with multi-family uses, ranging from low- to high-density developments. Commercial/retail uses are generally concentrated along Union Avenue SW (parallel to the west side of I-5). The Harry Todd Park is located in the northwest corner of Tillicum, northwest of Woodlawn Street SW, between Maple Street SW and North Thorne Lane SW, and covers a relatively large area. Tillicum also has institutional uses, including Tillicum Elementary School and the Tillicum/Woodbrook Community Service Center.

TECHNICAL MEMORANDUM (CONTINUED)

Figure 2 also shows the existing land uses in the American Lake Gardens neighborhood. Similar to Tillicum, the majority of properties in American Lake Gardens are used for residential purposes and the density of development is considerably inconsistent between adjacent properties. A few commercial/retail properties occur on the east side of Murray Road SW, the north side of 146th Street SW, and west of Woodbrook Drive NW. One parcel on the south side of 150th Street SW is currently used for industrial purposes. American Lake Gardens has a few institutional uses, including the Woodbrook Middle School. Several properties scattered throughout the community are currently vacant.

2.3 Level of Service Conditions

A level of service (LOS) analysis was conducted for the five study intersections to determine existing operating conditions. Level of service (LOS) is an estimate of the quality and performance of the transportation system operations. One industry standard for evaluating traffic conditions is based on the Transportation Research Board's methodology outlined in the *Highway Capacity Manual (HCM)*, *Special Report 209* (TRB 2000). Using this methodology, traffic conditions are assessed with respect to the average intersection delay (seconds/vehicle). The letter "A" is used to describe the least amount of congestion and best operations, and the letter "F" is used for the highest amount of congestion and worst operations. The 2000 HCM level of service ratings and criteria for signalized and unsignalized intersections are shown in Table 1. The City of Lakewood generally identifies LOS D or better at intersections as acceptable. Lower LOS grades at a few select locations are acceptable, including the I-5 northbound ramps at Murray Road SW intersection, which must operate at LOS F with a volume to capacity (v/c) ratio of 1.05 or less to be considered acceptable.

Table 1. Level of Service Ratings for Signalized and Unsignalized Intersections

LOS Rating	Average Delay for Signalized and AWSC Intersections (seconds/vehicle)	Average Delay for Unsignalized TWSC Intersections (seconds/vehicle)
A	0 – 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Highway Capacity Manual (TRB 2000)

AWSC: all-way stop-controlled

TWSC: two-way stop-controlled

As described above, the following five intersections were identified by City of Lakewood staff for inclusion in this traffic analysis:

- I-5 northbound ramps at Murray Road SW (signalized)
- I-5 southbound ramps at Thorne Lane SW (signalized)
- Murray Road SW at 150th Street SW (all-way stop-controlled)
- I-5 northbound ramps at Jackson Avenue (signalized)
- I-5 southbound ramps at Berkeley Street SW (signalized)

A review of historical traffic volumes was conducted to estimate growth and a 1.5 percent growth rate was deemed appropriate at the study intersections consistent with average growth rates in general area. The 1.5 percent growth rate was applied to 2004 and 2006 PM peak hour turning movement counts collected by Trafficount Inc. and WSDOT to estimate existing 2007 traffic volumes. Using these

TECHNICAL MEMORANDUM (CONTINUED)

volumes, the study intersections were analyzed using Trafficware's software program, Synchro 6.0 (build 614). PM peak hour turning movement count data were provided by Trafficcount Inc. and WSDOT, and collected in 2004 and 2006. Table 2 summarizes the existing traffic operations and Figure 3 graphically depicts current intersection traffic volumes.

Table 2. PM Peak Hour Level of Service – 2007 Existing Conditions

Intersection	2007 Existing	
	LOS	Delay (sec/veh)
I-5 Southbound Ramps/Thorne Lane SW	D	50.7
I-5 Northbound Ramps/Murray Road SW	D	35.2
Murray Road SW/150th Street SW ¹	F	71.9
I-5 Southbound Ramps/Berkeley Street SW	E	61.5
I-5 Northbound Ramps/Jackson Avenue	F	82.9

¹ Unsignalized all-way stop-controlled intersection

As shown in Table 2, both intersections at the Berkeley Street SW/Jackson Avenue interchange and the Murray Road SW/150th Street SW intersection currently exceed the City of Lakewood's LOS D standard for these locations.

3 FUTURE CONDITIONS

3.1 Functional Classifications and Roadway Characteristics

Redevelopment of the Tillicum and American Lake Gardens communities could result in changes to the local transportation system, such as intersection channelization improvements; however the functional classifications of these roadways are not expected to change before the 2017 horizon year.

3.2 2017 Without Project – Land Use and Zoning

As described above, many properties in Tillicum and American Lake Gardens rely on septic systems, which, in some cases, are failing and posing potential adverse impacts to human health and the environment. Without the project, property owners would be precluded from redeveloping their properties to their land use potential as defined in the zoning amendments made in the 2000 Comprehensive Plan, and future land uses would be similar to current conditions.

3.3 2017 Without Project – Level of Service Conditions

As described in Section 2.3, a 1.5 percent annual growth rate was used to forecast future 2017 traffic volumes. Similar to the existing conditions evaluation, the 2017 without project analysis used Synchro 6.0 (build 614) to estimate future traffic operations at the study intersections. Table 3 provides a comparison of the existing and 2017 without project traffic operations, and Figure 4 shows the 2017 without project traffic volumes.

TECHNICAL MEMORANDUM (CONTINUED)

Table 3. PM Peak Hour Level of Service – 2007 Existing and 2017 Without Project Conditions

Intersection	2007 Existing		2017 Future without Project	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
I-5 Southbound Ramps/Thorne Lane SW	D	50.7	D	54.4
I-5 Northbound Ramps/Murray Road SW	D	35.2	D	36.2
Murray Road SW/150th Street SW ¹	F	71.9	F	134.1
I-5 Southbound Ramps/Berkeley Street SW	E	61.5	F	93.7
I-5 Northbound Ramps/Jackson Avenue	F	82.9	F	82.1 ²

¹ Unsignalized all-way stop-controlled intersection

² The operations at this intersection improve in 2017 compared to existing conditions as a result of assumed updated signal timing plans, which includes optimized phase and cycle lengths

The increase in traffic volumes at the study intersections is expected to increase delay. The Berkeley Street SW/Jackson Avenue interchange and Murray Road SW/150th Street SW intersection are expected to continue to operate unacceptably below the City's LOS D standard and with longer delays.

3.4 2017 With Project – Land Use and Zoning

Extension of the sewer line would allow properties in Tillicum and American Lake Gardens to be redeveloped according to their zoning designation as identified in the 2000 Comprehensive Plan. In Tillicum, this would allow for the expansion of the commercially-zoned area along Union Avenue SW, development of additional residential dwelling units, and geographic consolidation of similar land uses. The zoning revisions would also consolidate similar land uses in American Lake Gardens, and accommodate a large industrial area that would be used to create jobs and stimulate economic growth.

In 2017, with the project, properties in Tillicum and American Lake Gardens were assumed to be redeveloped and built-out to their full land use potential consistent with zoning designations. This assumption provides a conservative basis to estimate transportation effects associated with the project. Figure 5 shows the redevelopment potential that would be permitted with the project.

3.5 Trip Generation

Geographic information systems (GIS) data provided by the City were used to estimate the existing area and number of residential units for each type of land use in Tillicum and American Lake Gardens. Using the GIS data and methodologies provided in the Institute of Transportation Engineers' (ITE) *Trip Generation, 7th Edition* report, traffic volumes generated by the current land uses were calculated. The same methodologies were used to calculate future trips generated by full build out of the land use potential. The net difference between the calculated existing and calculated future trips generated was applied to future 2017 without project volumes at the study intersections to represent future traffic volumes with the project. Table 4 provides a summary of the calculated trip generation and future 2017 with project traffic volumes. The calculated trips in Table 4 are broken down into four quadrants within the study area, which are shown in Figure 6.

TECHNICAL MEMORANDUM (CONTINUED)

Table 4. PM Peak Hour Trip Generation and Future Year 2017 Traffic Volume Increases with Proposed Sewer Extension

Quadrant Location (see Figure 6)	Quadrant 1		Quadrant 2		Quadrant 3		Quadrant 4	
	South end of Tillicum	I-5/Thorne Ln; I-5/Murray Rd	North end of Tillicum	I-5/Thorne Ln; I-5/Murray Rd	North end of Amer. Lake Gardens	I-5/Thorne Ln; I-5/Murray Rd	South end of Amer. Lake Gardens	Murray Rd/150th St
Associated Intersections	I-5/Berkeley St; I-5 Jackson Ave							
Estimated Trips Generated by Existing Land Use ²	1,085	614		894				507
Estimated Trips Generated by Full Build-Out of Future Land Use ²	1,632	1,328		3,461				1,893
Net Increase in Estimated Trips to/from Each Quadrant	547	714		2,567				1,386
Year 2017 Traffic Volumes to/from Each Quadrant - Without Sewer Extension ³	1,239	818		1,527				906
Year 2017 Traffic Volumes to/from Each Quadrant - With Sewer Extension ^{3,4}	1,786	1,532		4,094				2,292
Percent Increase in PM Peak Hour Trips to/from Each Quadrant (2017 With Project compared to 2017 Without Project)	44%	87%		169%				153%

¹ Trips generated by Quadrant 4 are included in Quadrant 3 volumes since they would utilize the same access point to the regional transportation network

² Sum total of inbound and outbound external trips does not include trips with local origins and destinations within the given quadrant

³ Sum total of applicable turning movement counts at intersections associated with the given quadrant

⁴ Sum total of 2017 traffic volumes to/from each quadrant without the sewer extension plus the net increase in trips to/from each quadrant

TECHNICAL MEMORANDUM (CONTINUED)

3.6 Distribution and Assignment

Although local travel patterns would change as a result of the sewer extension and changes to the zoning, future regional travel demand and distribution currently exhibited at the study intersections were assumed to remain similar to existing conditions.

Trips generated within each quadrant were assumed to access the regional transportation network via the closest interchange; i.e. trips generated in Quadrant 1 would use the Berkeley Street SW/Jackson Avenue interchange, and trips generated in Quadrants 2, 3, and 4 would generally use the Thorne Lane SW/Murray Road SW interchange. Additionally, only trips generated in Quadrant 4 were assumed to affect traffic volumes at the Murray Road SW/150th Street SW intersection. Figure 7 shows the future turning movement volumes at the study intersections that would result from the net change in trip generation associated with the change in land uses.

3.7 2017 With Project – Level of Service Conditions

As described above, traffic volumes would increase substantially as a result of the sewer service extension into the Tillicum and American Lake Gardens communities in concert with the zoning designations identified in the 2000 Comprehensive Plan. Accordingly, the LOS at the study intersections is also expected to degrade. Table 5 summarizes the existing, future without project, and future with project LOS conditions at the study intersections.

Table 5. PM Peak Hour Level of Service – 2007 Existing and 2017 Without and With Project Conditions

Intersection	2007 Existing Conditions		2017 Future without Project Conditions		2017 Future with Project Conditions	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
I-5 Southbound Ramps/Thorne Lane SW	D	50.7	D	54.4	F	>200
I-5 Northbound Ramps/Murray Road SW	D	35.2	D	36.2	F	>200
Murray Road SW/150th Street SW ¹	F	71.9	F	134.1	F	>200
I-5 Southbound Ramps/Berkeley Street SW	E	61.5	F	93.7	F	186.0
I-5 Northbound Ramps/Jackson Avenue	F	82.9	F	82.1	F	160.1

¹ Unsignalized all-way stop-controlled intersection

As shown in Table 5, all study intersections are expected to operate at unacceptable LOS F in the year 2017 with full buildout of the proposed land uses. Although the I-5 northbound ramps at Murray Road SW intersection has an LOS F standard, the 2017 v/c ratio is estimated to be 2.31, which exceeds the 1.05 v/c standard.

4 MITIGATION/CUMULATIVE EFFECTS

Pierce County and Washington State Department of Transportation plan to construct a new highway to connect I-5 to the east side of Pierce County. The highway, State Route (SR) 704, also known as Cross-Base Highway, would cross the southern and western portions of American Lake Gardens, connecting to I-5 in the vicinity of Tillicum. Future land use changes in Tillicum and American Lake Gardens were assumed in the traffic forecasts and analysis conducted for the Cross-Base Highway Environmental Impact Statement.

As part of the SR 704 project, the I-5/Thorne Lane SW interchange would be reconstructed as a single-point urban interchange (SPUI), and a southbound local-access roadway from SW Gravelly Lake Drive to Thorne Lane SW would be constructed. These proposed changes to the transportation system would increase future travel demand at the I-5/Thorne Lane SW interchange. However, the increased traffic volumes at this interchange would be more effectively served by the SPUI configuration compared to the existing full diamond interchange configuration, resulting in improved LOS and delay. SR 704 would connect directly to 150th Street SW and Murray Road SW, replacing the existing unsignalized intersection.

Traffic volumes at the I-5/Berkeley Street SW interchange would likely decrease as a result of the new highway connection, as some vehicles traveling between the Tillicum neighborhood and points to the north and east (via I-5 and SR 704) are expected to divert to the improved I-5/Thorne Lane SW interchange. These traffic diversions would not likely improve intersection LOS but could result in slightly reduced delays at the I-5 Southbound Ramps/Berkeley Street SW and I-5 Northbound Ramps/Jackson Avenue intersections.

No additional mitigation measures beyond those planned as part of the SR 704 project are recommended until such time that a more detailed evaluation of the effect of proposed land use and planned transportation improvements on vehicle travel demand can be performed.

5 CONCLUSION

The Berkeley Street SW/Jackson Avenue and 150th Street SW at Murray Road SW intersection currently exceed the City of Lakewood's LOS D standard for these locations and operate at LOS E and F. As a result of the increased traffic volumes associated with the land use intensification made possible by the sewer extension and allowed under the existing zoning designations, all study intersections are expected to operate at unacceptable LOS F with the project in 2017.

With the proposed new Cross-Base Highway (SR 704) and other potential road improvements, the transportation system in the area could better accommodate the types and densities of land uses envisioned by the City. However, additional improvements would likely need to be identified to accommodate existing and future travel demand at the I-5/Berkeley Street SW interchange.

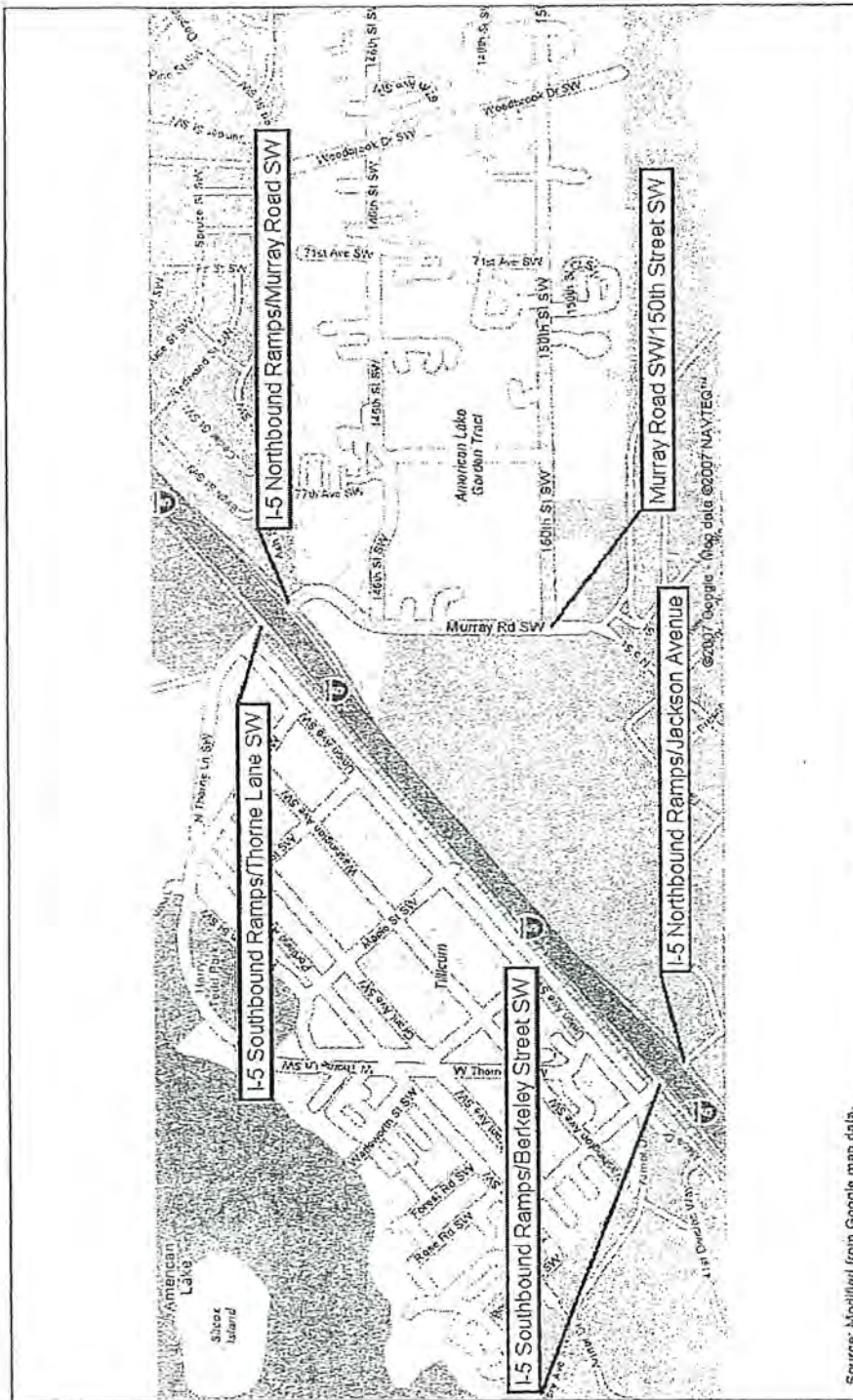
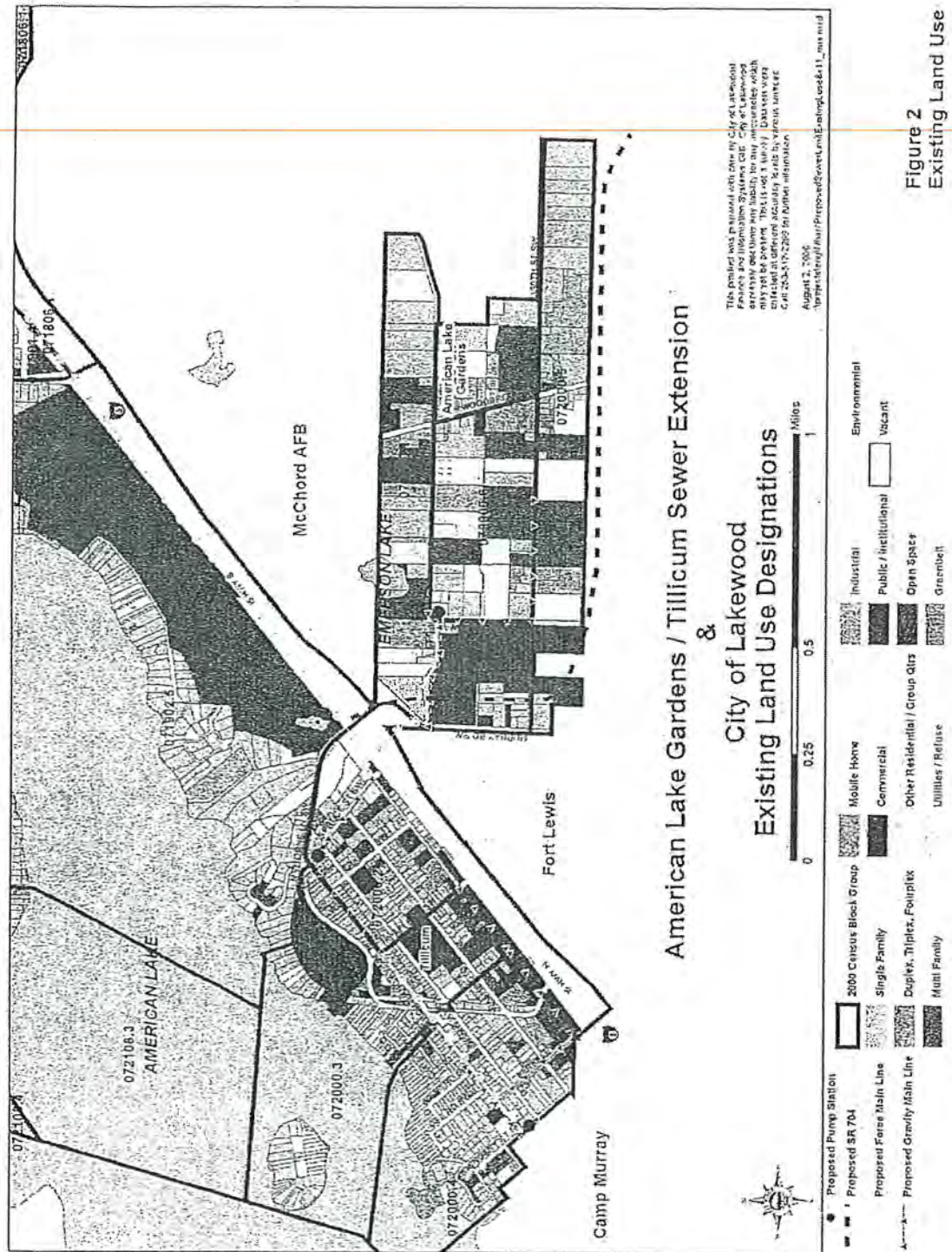


Figure 1
Project Vicinity and
Study Intersections



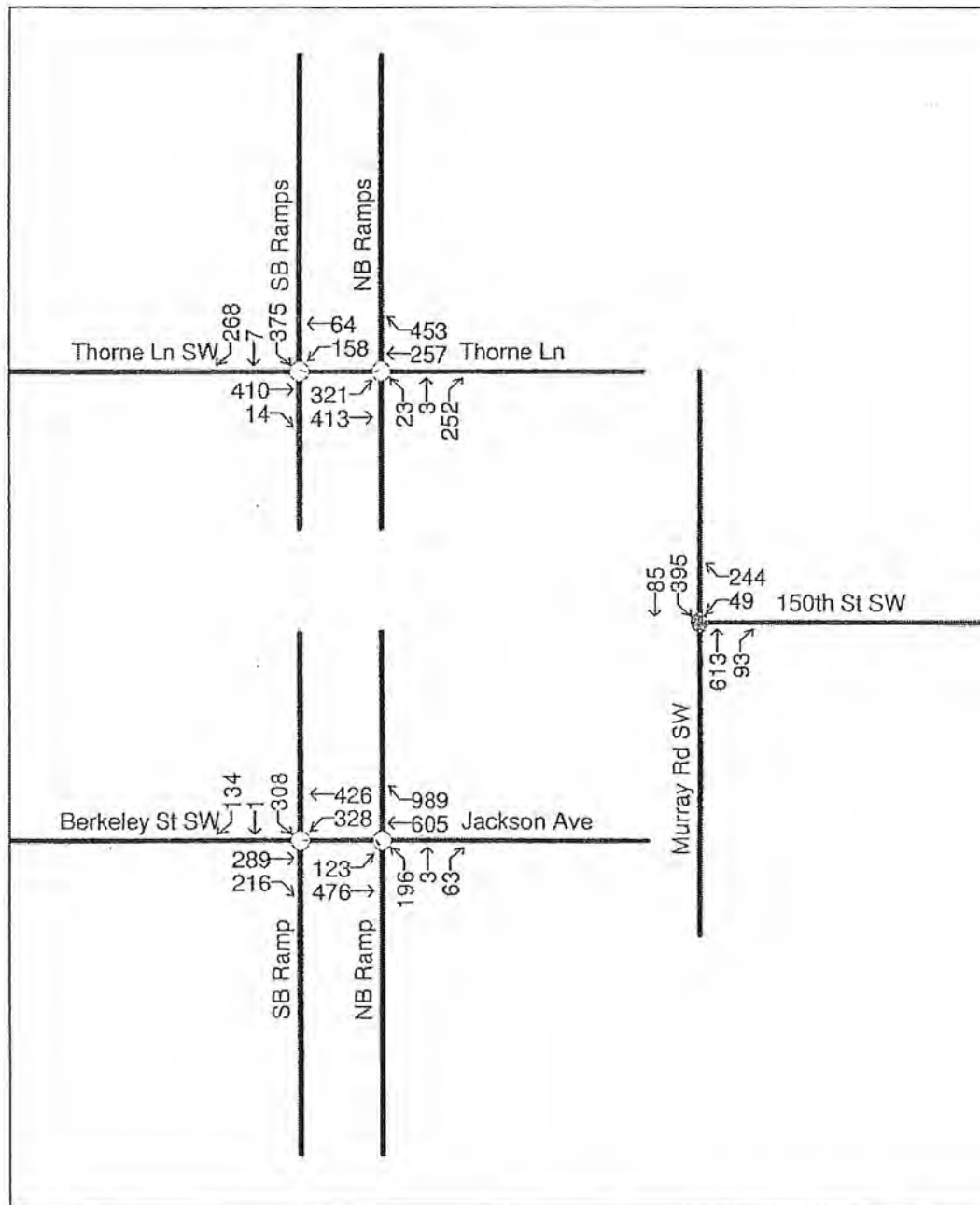


Figure 3
2007 Existing PM Peak Hour Traffic Volumes

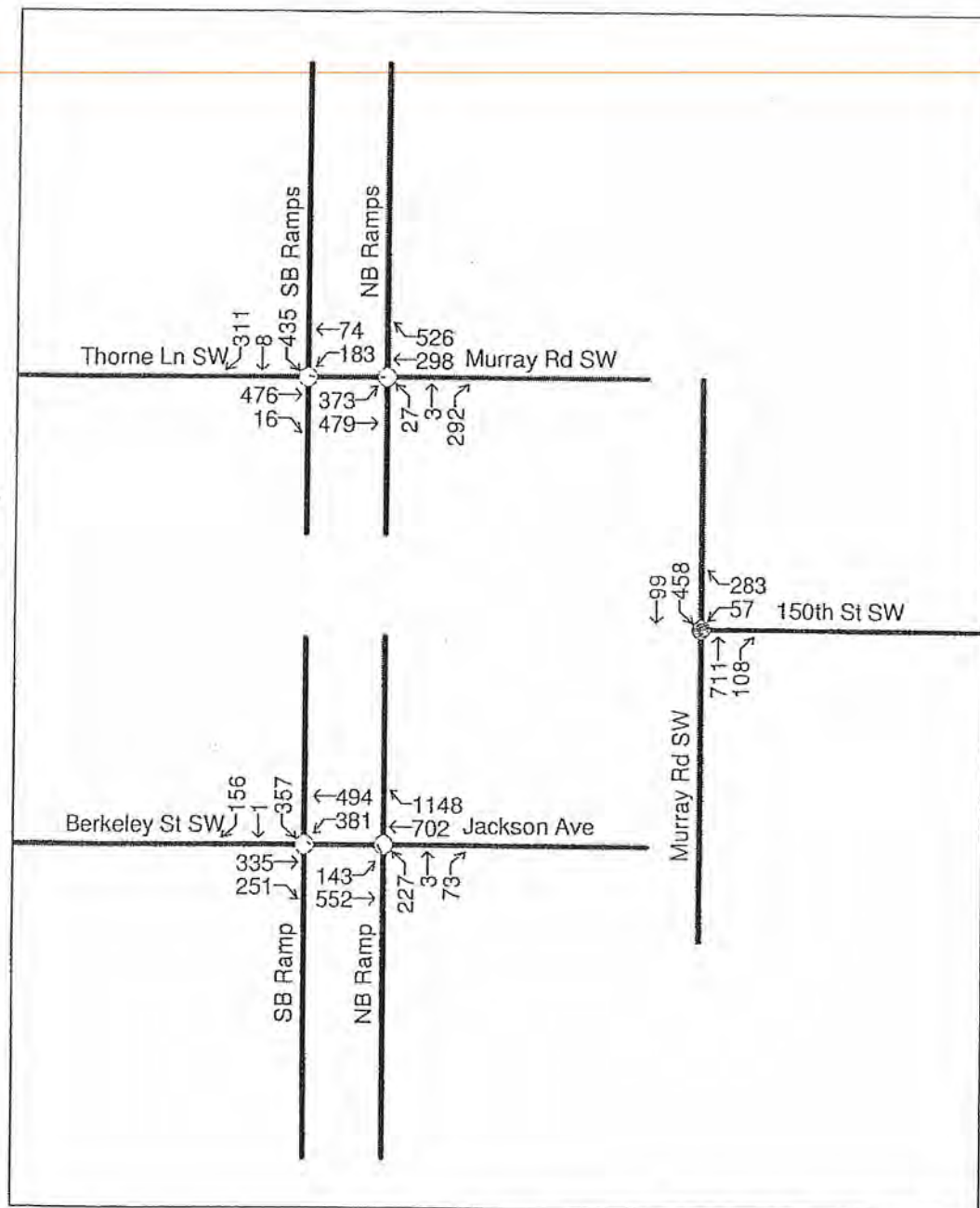
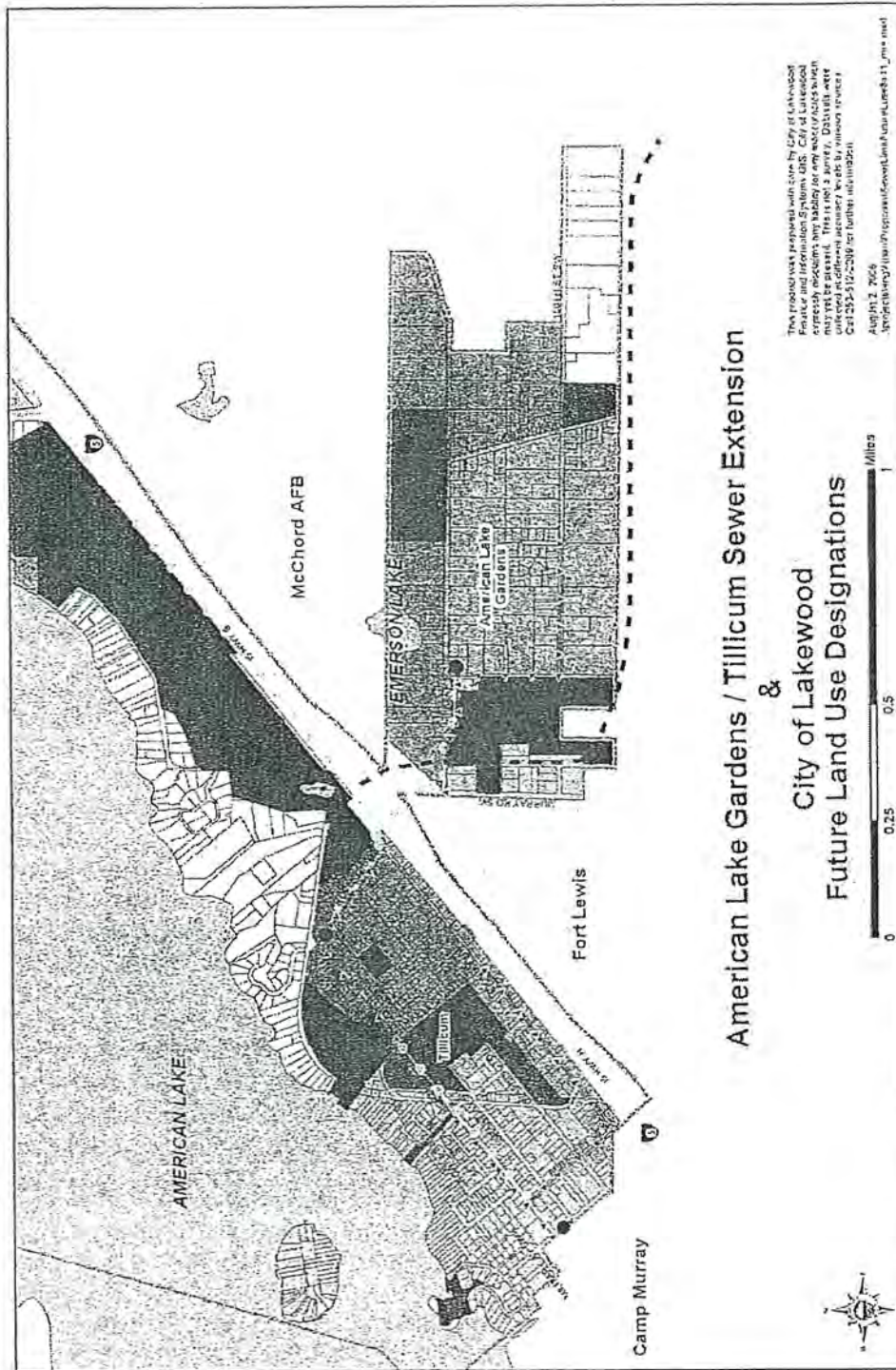
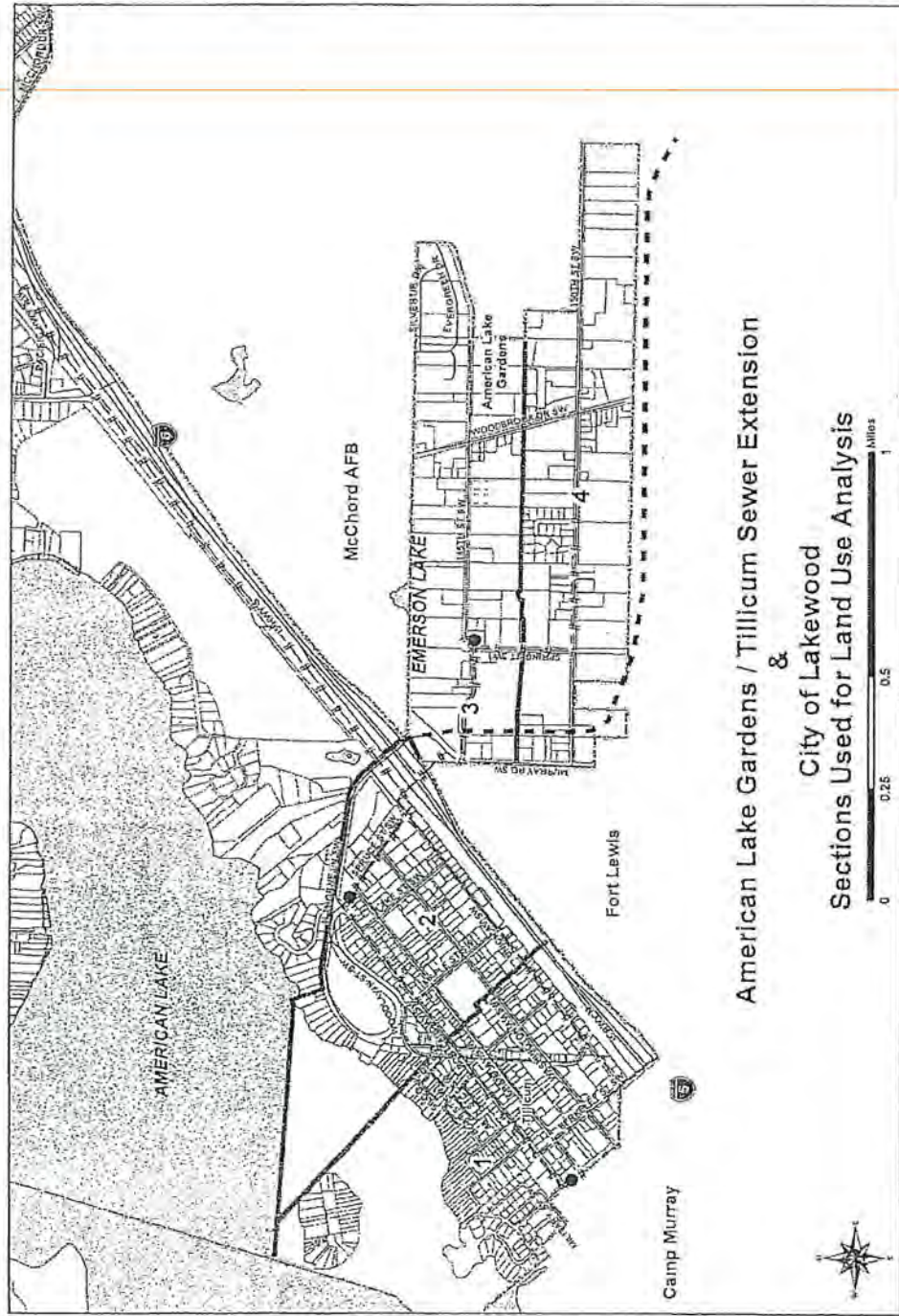


Figure 4
2017 Without Project PM Peak Hour Traffic Volumes



**Figure 5
Future Land Use**



This project was prepared with care by City of Lakewood Planning and Information Systems GIS. City of Lakewood expressly disclaims any liability for any inaccuracies which may yet be present. This is not a survey. Data were collected as described in the project description. Call 253-318-2089 for further information.

January 8, 2007
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**Figure 6
Land Use Quadrants**

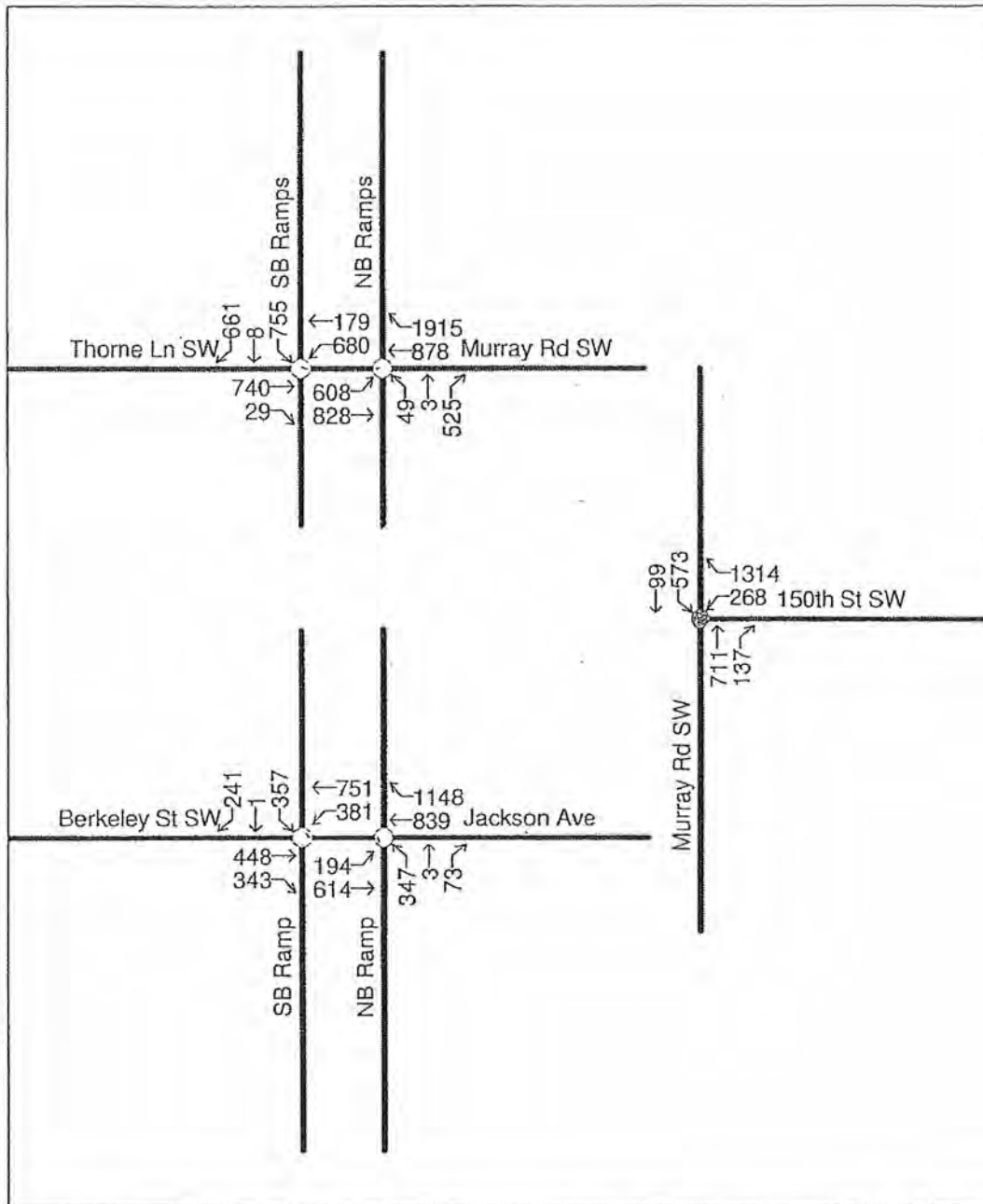


Figure 7
2017 With Project PM Peak Hour Traffic Volumes

ATTACHMENTS

Synchro LOS Summary Sheets

2007 Existing PM
1: Berkeley SJ SW & SB Ramp

423/2007

Line Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost Time (s)	0	1953	1593	0	1824	0	0	0	0	1775	1593	0
Satd. Flow (pcpl)	0	1653	1593	0	1624	0	0	0	0	1775	1593	0
Flt. Permitted	0	1653	1593	0	1624	0	0	0	0	1775	1593	0
Signal Timing (s)	0	289	216	328	426	0	0	0	0	308	1	134
Volume (vph)	0.97	0.97	0.97	0.94	0.94	0.99	0.99	0.99	0.99	0.94	0.84	0.84
Peak Hour Factor	0	236	223	249	453	0	0	0	0	367	1	160
Adj. Flow (vph)	0	236	223	249	453	0	0	0	0	367	1	160
Lane Group Flow (vph)	0	236	223	249	453	0	0	0	0	367	1	160
Turn Type	Perm	Perm	Split	Split	Split	Perm	Perm	Perm	Perm	Split	Perm	Perm
Protected Phases	2	2	2	7.8.4	7.8.4	1	1	1	1	1	1	1
Permitted Phases	2	2	2	7.8.4	7.8.4	1	1	1	1	1	1	1
Detector Phases	2	2	2	7.8.4	7.8.4	1	1	1	1	1	1	1
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.7	22.7	22.7	85.7	85.7	0.0	0.0	0.0	0.0	80.5	80.5	80.5
Total Split (s)	0.0	24.7	24.7	85.7	85.7	0.0	0.0	0.0	0.0	80.5	80.5	80.5
Maximum Green (s)	0.0%	15.0%	15.0%	41.1%	41.1%	0.0%	0.0%	0.0%	0.0%	42.4%	42.4%	42.4%
Maximum Yellow (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
All Red Time (s)	3.7	3.7	3.7	3.7	3.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lead/Lag Offset (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.7	4.7	4.7	4.7	4.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Time To Reduce (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Recall Mode	Min	Min	Min	Min	Min	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Flash Don't Walk (s)	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Admitted Calls (vph)	20	20	20	20	20	20	20	20	20	20	20	20
Admitted Calls (vph)	20	20	20	20	20	20	20	20	20	20	20	20
Admitted G/C Ratio	0.18	0.18	0.18	0.49	0.49	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Admitted G/C Ratio	0.18	0.18	0.18	0.49	0.49	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Control Delay	92.8	41.4	19.7	19.7	19.7	73.6	7.3	73.6	7.3	73.6	7.3	73.6
Quasi Delay	0.0	0.0	0.0	40.8	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.8	41.4	19.7	19.7	19.7	73.6	7.3	73.6	7.3	73.6	7.3	73.6
LOS	F	F	D	E	E	E	E	E	E	E	A	A
Approach Delay	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8
Approach LOS	E	E	E	E	E	E	E	E	E	E	A	A
90th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
10th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max

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American Lake Gardens
Parametric, Inc.

American Lake Gardens
Parametrix, Inc.

American Lake Gardens
Parametrix, Inc.

2007 Existing PM
1: Berkeley St SW & SB Ramp

4/25/2007

Lane Group	04	05	06	07	08
10th Yld Term Code	Max	Hold	Max	Max	Max
Curve Length 50th (ft)					
Curve Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Slavation Cap Reductin					
Spillback Cap Reductin					
Reduced v/c Ratio					
Intersection Summary					

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2007 Existing PM
2: Berkeley & NB Ramp

4/25/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SSL	SBT	SSR
Lane Configurations	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Turn Lost Time (s)	0	1844	0	0	1853	1553	0	1775	1553	0	0	0
Pk Permitted	0	990	0	0	1053	1553	0	953	1553	0	0	0
Satd. Flow (term)	123	476	0	0	905	989	196	1	63	0	0	0
Volume (vph)	0.97	0.97	0.97	0.93	0.93	0.93	0.92	0.92	0.92	0.95	0.95	0.95
Peak Hour Factor	127	491	0	0	651	1003	213	3	66	0	0	0
Adj. Flow (vph)	0	618	0	0	651	1053	216	3	68	0	0	0
Lane Group Flow (vph)	125	125	0	0	125	125	0	125	125	0	0	0
Turn Type	Split	Split	0	0	Split	Split	0	Split	Split	0	0	0
Protected Phases	125	125	0	0	125	125	0	125	125	0	0	0
Permitted Phases	125	125	0	0	125	125	0	125	125	0	0	0
Detector Phases	125	125	0	0	125	125	0	125	125	0	0	0
Minimum Initial (s)	136.7	136.7	0.0	0.0	44.7	0.0	25.5	25.5	25.5	25.5	25.5	25.5
Minimum Spk (s)	85.8%	54.0%	0.0%	0.0%	21.2%	0.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%
Total Spk (s)	3.7	3.7	0.0	0.0	3.7	3.7	0.0	3.5	3.5	0.0	0.0	0.0
Maximum Green (s)	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
Yellow Time (s)	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
All-Red Time (s)	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
Lead-Lag	Lag	Lag	0	0	Lag	Lag	0	Lag	Lag	0	0	0
Lead-Lag Optimizat	Yes	Yes	0	0	Yes	Yes	0	Yes	Yes	0	0	0
Vehicle Extension (s)	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0
Minimum Gap (s)	0.2	0.2	0.0	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.0	0.0
Time Before Reduct (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduct (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	0.0
Flash Cont Walk (s)	20	20	0.0	0.0	20	20	0.0	20	20	0.0	0.0	0.0
Pedestrian Calls (dhr)	40.8	183.8	0.0	0.0	40.8	183.8	0.0	40.8	183.8	0.0	0.0	0.0
Act Elct Green (s)	0.24	0.24	0.0	0.0	0.24	0.24	0.0	0.24	0.24	0.0	0.0	0.0
Actuated G/C Ratio	1.44	1.44	0.0	0.0	1.44	1.44	0.0	1.44	1.44	0.0	0.0	0.0
Control Delay	2.2	2.2	0.0	0.0	2.2	2.2	0.0	2.2	2.2	0.0	0.0	0.0
Control Delay	2.2	2.2	0.0	0.0	2.2	2.2	0.0	2.2	2.2	0.0	0.0	0.0
LOS	A	A	0.0	0.0	A	A	0.0	A	A	0.0	0.0	0.0
Approach Delay	112.9	112.9	0.0	0.0	112.9	112.9	0.0	112.9	112.9	0.0	0.0	0.0
Approach LOS	A	A	0.0	0.0	A	A	0.0	A	A	0.0	0.0	0.0
90th Yld Green (s)	40.0	40.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0
90th Yld Term Code	Max	Max	0.0	0.0	Max	Max	0.0	Max	Max	0.0	0.0	0.0
70th Yld Green (s)	40.0	40.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0
70th Yld Term Code	Max	Max	0.0	0.0	Max	Max	0.0	Max	Max	0.0	0.0	0.0
50th Yld Green (s)	40.0	40.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0
50th Yld Term Code	Max	Max	0.0	0.0	Max	Max	0.0	Max	Max	0.0	0.0	0.0
30th Yld Green (s)	40.0	40.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0
30th Yld Term Code	Max	Max	0.0	0.0	Max	Max	0.0	Max	Max	0.0	0.0	0.0
10th Yld Green (s)	40.0	40.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0
10th Yld Term Code	Max	Max	0.0	0.0	Max	Max	0.0	Max	Max	0.0	0.0	0.0

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2007 Existing PM
2: Berkeley & NB Ramp

4/23/2007

Lane Group	p1	p2	p3	p4	p5
Lane Configurations					
Total Lost Time (s)					
Signal Flow (prod)					
RT Permitted					
Signal Flow (pass)					
Signal Flow (stop)					
Signal Flow (TDR)					
Vehicle (vph)					
Peak Hour Factor					
Adj. Flow (vph)					
Lane Group Flow (vph)					
Turn Type	1	2	4	6	
Protected Phases					
Permitted Phases					
Minimum Initial (s)	6.0	5.0	4.0	4.0	
Minimum Split (s)	20.5	22.7	10.5	15.5	
Minimum Green (s)	45.5	47.7	12.5	12.5	
Minimum Yellow (s)	4.2	4.2	4.2	4.2	
Minimum Green (s)	35.0	30.0	8.0	8.0	
Yellow Time (s)	3.5	3.7	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lag			
Lead-Lag Optimizer?	Yes	Yes			
Vehicle Extension (s)	3.0	4.7	3.0	3.0	
Minimum Gap (s)	0.9	3.0	0.2	0.2	
Time Before Red (s)	30.0	6.0	0.0	0.0	
Time To Red (s)	20.0	20.0	0.0	0.0	
Initial Mode	None	Min	Min	Min	
Walk Time (s)	8.0	8.0			
Push Button Voke (s)	15.0	12.0			
Pedestrian Calk (Min)	20	20			
Adj. Elit Green (s)					
Activated pC Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
90th %ile Green (s)	58.1	30.0	8.0	8.0	
90th %ile Term Code	Gap	Max	Max	Hold	
70th %ile Green (s)	48.7	30.0	8.0	8.0	
70th %ile Term Code	Gap	Max	Max	Hold	
50th %ile Green (s)	41.8	30.0	8.0	8.0	
50th %ile Term Code	Gap	Max	Max	Hold	
30th %ile Green (s)	36.2	30.0	8.0	8.0	
30th %ile Term Code	Gap	Max	Max	Hold	
10th %ile Green (s)	29.7	30.0	8.0	8.0	

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Lane Group	0.4	0.6	0.7	0.8
30th %ile Term Code	Max	Hold	Gap	Gap
10th %ile Green (s)	6.0	6.0	4.0	14.6
10th %ile Term Code	Max	Hold	Min	Gap
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Queue Length 99th (ft)				
Turn Bay Length (ft)				
Base Clearance (ft)				
Starvation Cap Reducn				
Spillback Cap Reducn				
Starvation Cap Reducn				
Reduced V/C Ratio				

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (pcph)	0	1824	0	0	1863	1553	1770	1587	0	0	0	0
Flt Permitted	0	0.979	0	0	0	0.960	0.960	0.960	0	0	0	0
Satd. Flow (pcph)	0	1824	0	0	1863	1553	1770	1587	0	0	0	0
Volume (veh/hr)	321	413	0	0	257	453	33	352	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.82	0.82	0.95	0.95	0.95	0.95
Adj. Flow (vph)	338	435	0	0	286	503	38	407	0	0	0	0
Lane Group Flow (vph)	0	773	0	0	286	503	38	311	0	0	0	0
Turn Types	Spill				Perm	Spill						
Protected Phases	12.6	12.6			5		7					
Permitted Phases	12.6	12.6			5		7					
Detector Phases					8		7					
Minimum Initial (s)					6.0		4.0					
Minimum Split (s)					4.2		22.5					
Minimum Green (s)					4.2		22.5					
Total Split (%)					68.2%		68.2%					
Maximum Green (s)					40.0		20.0					
Yellow Time (s)					3.5		3.5					
All-Red Time (s)					1.0		1.0					
Lead/Lag					Lag		Lead					
Lead-Lag Optimize?					Yes		Yes					
Vehicle Extension (s)					3.0		3.0					
Minimum Gap (s)					0.2		0.2					
Time Before Reducn (s)					0.0		0.0					
Time To Reducn (s)					20.0		20.0					
Flash Don't Walk (s)					None		None					
Flash Don't Walk (s)					None		None					
Pedestrian Call (s/hr)					30		20					
Act Elct Green (s)					32.2		14.1					
Actualized g/C Ratio					0.19		0.08					
V/C Ratio					0.79		0.19					
Control Delay					83.5		82.0					
Queue Delay					0.0		0.0					
Total Delay					83.5		82.0					
LOS					F		F					
Approach Delay					89.4		75.2					
Approach LOS					E		C					
80th %ile Term Code					Max		Max					
80th %ile Green (s)					40.0		20.0					
70th %ile Term Code					Max		Max					
70th %ile Green (s)					40.0		20.0					
50th %ile Term Code					Max		Max					
50th %ile Green (s)					40.0		18.0					
30th %ile Term Code					Max		Max					
30th %ile Green (s)					28.1		10.1					
10th %ile Term Code					Gap		Gap					
10th %ile Green (s)					14.6		4.0					

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4: Thorne Ln & NB Ramp

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Lane Group	01	02	04	05
Lane Configurations				
Total Lost Time (s)				
Satd. Flow (pc/h)				
Pk Permitted				
Satd. Flow (pc/h)				
Satd. Flow (RTOR)				
Volume (vph)				
Peak Hour Factor				
Adj. Flow (vph)				
Lane Group Flow (vph)				
Signal Phases	1	2	4	6
Protected Phases				
Detector Phases				
Minimum Initial (s)	6.0	8.0	1.0	1.0
Minimum Split (s)	21.5	23.5	6.0	6.0
Total Split (s)	79.5	44.5	11.0	11.0
Total Split (%)	39%	22%	5%	5%
Maximum Green (s)	75.0	40.0	6.0	6.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.5	1.5
Lead/Lag	Lead	Lag		
Leading/Lagging Optimize?	Yes	Yes		
Vehicle Clearance (s)	4.0	4.7	3.0	3.0
Minimum Green (s)	0.2	0.2	0.2	0.2
Time Before Red (s)	0.0	0.0	0.0	0.0
Time To Red (s)	20.0	20.0	20.0	20.0
Recall Mode	None	Min	None	None
Walk Time (s)	6.0	6.0		
Flash Dont Walk (s)	11.0	12.0		
Pedestrian Call (p/h)	0			
Act Elctd Green (s)				
Actuated g/C Ratio				
vc Ratio				
Control Delay				
Queue Delay				
Travel Delay				
LOS				
Approach Delay				
Approach LOS				
90th %ile Green (s)	75.0	40.0	6.0	6.0
90th %ile Term Code	Max	Max	Max	Max
70th %ile Green (s)	55.7	40.0	6.0	6.0
70th %ile Term Code	Cap	Max	Max	Hold
50th %ile Green (s)	55.2	40.0	6.0	6.0
50th %ile Term Code	Cap	Max	Max	Hold
30th %ile Green (s)	38.2	40.0	6.0	6.0
30th %ile Term Code	Cap	Max	Max	Hold
10th %ile Green (s)	21.4	40.0	6.0	6.0

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Movement	WBL	WBR	NBT	NBR	SBL	SBR
Lane Configurations			T	T		
Sign Control	Stop	Stop			Stop	Stop
Volume (vph)	49	244	613	93	395	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	51	234	609	97	411	99
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total (vph)	51	254	735	300		
Volume Left (vph)	51	0	0	411		
Volume Right (vph)	0	254	325	0		
Volume Thru (vph)	0.02	-0.56	-0.25	0.22		
Drainage Headway (s)	6.0	5.8	5.8	6.1		
Drainage Utilization, %	0.11	0.48	1.19	0.85		
Capacity (veh/h)	433	511	825	579		
Control Delay (s)	10.3	14.8	12.1	34.8		
Approach Delay (s)	14.2	12.1	34.8			
Approach LOS	B	F	F	D		
Interaction Summary						
Delay			71.9			
HCM Level of Service			F			
Intersection Capacity Utilization			77.6%			
Analysis Period (min)			15			
					IOU Level of Service	D

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1: Berkeley St SW & SB Ramp

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Lane Group	EBL	EBT	EDB	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost Time (s)	0	1863	1583	0	1824	0	0	0	0	1773	1583	0
Flt Permitted	0	1863	1583	0	1824	0	0	0	0	1773	1583	0
Split Flow (Perm)	0	335	251	381	484	0	0	0	0	357	1	156
Split Flow (RTOR)	0	335	251	381	484	0	0	0	0	357	1	156
Vehicle Delay (s)	0.37	0.97	0.97	0.94	0.94	0.94	0.99	0.99	0.99	0.84	0.84	0.84
Peak Hour Factor	0.345	259	405	528	0	0	0	0	0	455	1	185
Adj. Flow (vph)	0	345	259	0	931	0	0	0	0	425	185	0
Lane Group Flow (vph)	0	345	259	0	931	0	0	0	0	425	185	0
Turn Type	Perim	Split	Split	Split	Split	Split	Split	Split	Split	Split	Perim	Perim
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Detector Phases	2	2	2	2	2	2	2	2	2	2	2	2
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Total Split (%)	0.0	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Minimum Green (s)	0.0%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%	20.3%
Minimum Yellow (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Ad-Free Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Red (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Red (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Flash Red (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Red Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Call (After)	20	20	20	20	20	20	20	20	20	20	20	20
Act Elct Green (s)	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
Act Elct Green (s)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Act Elct Green (s)	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Act Elct Green (s)	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Control Delay	120.9	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	120.9	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
LOS	F	C	C	C	C	C	C	C	C	C	C	C
Approach Delay	82.2	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8
Approach LOS	F	C	C	C	C	C	C	C	C	C	C	C
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max

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1: Berkeley St SW & SB Ramp

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th Mile Term Code												
Queue Length (ft)	426	186	126									
Queue Length (ft)	426	186	126									
Internal Link Dist (ft)	920	150										
Turn Bay Length (ft)	329	406	991									
Base Capacity (vph)	0	0	176									
Starvation Cap Reduction	0	0	0									
Spillback Cap Reduction	0	0	0									
Storage Cap Reduction	0	0	0									
Reduced v/c Ratio	1.05	0.64	1.14									

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Natural Cycle: 150	
Control Type: Actuated-Unsaturated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 91.7	
Intersection Capacity Utilization: 94.5%	
Analysis Period (min): 15	
90th Mile Actuated Cycle: 150	
70th Mile Actuated Cycle: 150	
50th Mile Actuated Cycle: 150	
30th Mile Actuated Cycle: 150	
10th Mile Actuated Cycle: 150	
Volume shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Intersection LOS: F
ICU Level of Service: F

2017 Without Project PM
1: Berkeley St SW & SB Ramp

4/23/2007

Lane Group	#4	#5	#7	#8
Lane Configurations				
Total Lost Time (s)	4.0	4.0	6.0	6.0
Satd. Flow (prot)	10.5	10.5	22.5	22.5
RT Permitted	10.5	10.5	22.5	22.5
Satd. Flow (perm)	10.5	10.5	22.5	22.5
Shift. Flow (left turn)	7.5	7.5	15.0	15.0
Shift. Flow (right turn)	7.5	7.5	15.0	15.0
Peak Hour Factor	3.5	3.5	3.5	3.5
Adj. Flow (vph)	1.0	1.0	1.0	1.0
Lane Group Flow (vph)	4.0	4.0	6.0	6.0
Turn Type	4	6	7	8
Protected Phases				
Detector Phases				
Minimum Initial (s)	4.0	4.0	6.0	6.0
Minimum Split (s)	10.5	10.5	22.5	22.5
Total Split (s)	10.5	10.5	22.5	22.5
Maximum Green (s)	7.5	7.5	15.0	15.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimized?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.0	0.0	0.0	0.0
Time Before Reduces (s)	0.0	0.0	0.0	0.0
Time To Reduces (s)	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	None	None
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Don't Walk (s)	12.0	12.0	12.0	12.0
Pedestrian Call (ft/hr)	20	20	20	20
Act Elapsed Green (s)				
Actual g/C Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
90th Mile Green (s)	6.0	6.0	18.5	18.5
90th Mile Term Code	Max	Max	Max	Max
70th Mile Green (s)	6.0	6.0	18.5	18.5
70th Mile Term Code	Max	Max	Max	Max
50th Mile Green (s)	6.0	6.0	18.5	18.5
50th Mile Term Code	Max	Max	Max	Max
30th Mile Green (s)	6.0	6.0	18.5	18.5
30th Mile Term Code	Max	Max	Max	Max
10th Mile Green (s)	6.0	6.0	18.5	18.5
10th Mile Term Code	Max	Max	Max	Max

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2017 Without Project PM 1: Berkley St SW & SB Ramp													2017 Without Project PM 2: Berkley St NB Ramp													4/23/2007												
Lane Group	at	at	at	at	at	at	at	at	at	at	at	at	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB	SEB	SEB	SEB										
10th %ile Term Code	Max	Hold	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Lane Configuration	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0										
Queue Length 95th (ft)													Turn Left (veh)	0	184	0	0	1063	1553	0	1755	1583	0	0	0	0	0	0										
Queue Length 95th (ft)													FL Permitted	0	184	0	0	1063	1553	0	1755	1583	0	0	0	0	0	0										
Internal Link Dist (ft)													Satd. Flow (veh/mi)	0	1844	0	0	1863	1583	0	1775	1583	0	0	0	0	0	0										
Turn Bay Length (ft)													Satd. Flow (RTOR)	143	552	0	0	702	1148	237	3	73	0	0	0	0	0	0										
Base Capacity (veh)													Volume (vph)	147	569	0	0	755	1234	247	3	75	0	0	0	0	0	0										
Starvation Cap Reductn													Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92											
Starvation Cap Reductn													Adj. Flow (veh)	147	569	0	0	755	1234	247	3	75	0	0	0	0	0	0										
Starvation Cap Reductn													Lane Group Flow (vph)	0	716	0	0	755	1234	0	250	75	0	0	0	0	0	0										
Reduced V/C Ratio													Turn Type	Split	Free	Free	Free	Free	Free	Split	Split	Split	Split	Split	Split	Split	Split	Split										
Intersection Summary													Protected Phases	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2										
													Permitted Phases	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2										
													Detector Phases	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2										
													Minimum Initial (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7										
													Minimum Spk (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7										
													Minimum Spk (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7										
													Total Spk (ft)	75.0	75.0	0.0	0.0	52.0	0.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0										
													Total Spk (ft)	75.0	75.0	0.0	0.0	52.0	0.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0										
													Total Spk (ft)	75.0	75.0	0.0	0.0	52.0	0.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0										
													Maximum Green (s)	50.0%	50.0%	0.0%	0.0%	24.7%	0.0%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%										
													Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7										
													All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0										
													Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag										
													Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes										
													Vehicle Extension (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
													Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2										
													Time Before Reduces (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
													Time To Reduces (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
													Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None										
													Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0										
													Flash Don't Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0										
													Pedestrian Cuts (ft/hr)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50										
													Act Effect Green (s)	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0										
													Actual g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32										
													V/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32										
													Control Delay	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8										
													Queue Delay	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2										
													Total Delay	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1										
													LOS	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D										
													Approach Delay	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1										
													Approach LOS	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D										
													90th %ile Green (s)	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3										
													90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max										
													70th %ile Green (s)	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3										
													70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max										
													50th %ile Green (s)	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3										
													50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max										
													30th %ile Green (s)	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3										
													30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max										
													10th %ile Green (s)	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3										
													10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max										
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4/23/2007

2017 Without Project PM
2: Berkeley & NB Ramp

Line Group	e1	e2	e4	e6
Line Configurations				
Teril List Time (s)				
Satd. Flow (prot)				
RTOR				
Satd. Flow (RTOR)				
Satd. Flow (RTOR)				
Volume (vph)				
Peak Hour Factor				
Adj. Flow (vph)				
Line Group Flow (vph)				
Turn Type	1	2	4	6
Protected Phases				
Permitted Phases				
Detector Phases				
Minimum (s)	6.0	5.0	4.0	4.0
Minimum Spd (s)	20.5	23.7	10.5	10.5
Total Spd (s)	34.0	30.5	10.5	10.5
Total Spd (%)	23%	20%	7%	7%
Maximum Green (s)	23.5	25.8	6.0	6.0
Yellow Time (s)	3.5	3.7	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	4.7	3.0	3.0
Minimum One (s)	0.9	3.0	0.2	0.2
Time To Reduce (s)	35.0	6.0	0.0	0.0
Time To Reduce (s)	20.0	20.0	0.0	0.0
Flash Mode (s)	Hold	Hold	Min	Min
Flash Time (s)	10.0	8.0		
Flash Don't Walk (s)	10.0	12.0		
Pedestrian Cals (e/h)	20	20		
Act Elid Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
50th %ile Green (s)	23.5	25.8	6.0	6.0
50th %ile Term Code	Max	Max	Max	Max
70th %ile Green (s)	23.5	25.8	6.0	6.0
70th %ile Term Code	Max	Max	Max	Max
50th %ile Green (s)	23.5	25.8	6.0	6.0
50th %ile Term Code	Max	Max	Max	Max
30th %ile Green (s)	23.5	25.8	6.0	6.0
30th %ile Term Code	Max	Max	Max	Max
10th %ile Green (s)	23.5	25.8	6.0	6.0
10th %ile Term Code	Max	Max	Max	Max

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2017 Without Project PM

3: Thorne Ln SW & SB Ramp

4/23/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1863	1503	0	1765	0	0	0	0	0	1758	1568	0	0
Flt Permitted	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (perm)	0	1863	1429	0	1765	0	0	0	0	0	1758	1401	0	0
Satd. Flow (P/TOR)	0	476	16	183	74	0	0	0	0	0	435	324	0	0
Volume (vph)	0	0.93	0.93	0.78	0.78	0.78	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Conf. Peds. (#/hr)	0	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0	512	17	235	95	0	0	0	0	0	500	337	0	0
Adj. Flow (vph)	0	512	17	235	95	0	0	0	0	0	500	337	0	0
Lane Group Flow (vph)	0	512	17	235	95	0	0	0	0	0	500	337	0	0
Turn Type	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Opposed Phases	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum Split (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	0.0	44.2	44.2	59.2	59.2	59.2	0.0	0.0	0.0	0.0	44.2	44.2	0.0	0.0
Total Split (%)	0.0%	29.5%	29.5%	39.5%	39.5%	39.5%	0.0%	0.0%	0.0%	0.0%	29.5%	29.5%	0.0%	0.0%
Maximum Green (s)	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
Maximum Green (%)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Yellow Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead-Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Between Pedes (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Platoon Release (s)	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Act Elct Green (s)	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3	40.3
Actual g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
v/c Ratio	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Control Delay	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
Level of Service	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Approach Delay	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6
Approach LOS	F	F	F	F	F	F	F	F	F	F	F	F	F	F
90th %ile Green (s)	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Green (s)	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7

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2017 Without Project PM 4: Thorne Ln SW & SB Ramp										4/25/2007									
2017 Without Project PM 4: Thorne Ln SW & NB Ramp										4/25/2007									
Lane Group	EBL	EDT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	EBL	EDT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	1624	0	0	1563	1563	1770	1567	0	0	0	0	0	0	0	0	0	0	0
Flt Permitted	0	0.379	0	0	0	0	0.350	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (perm)	0	1624	0	0	1563	1563	1770	1567	0	0	0	0	0	0	0	0	0	0	0
Volume (vph)	373	479	0	0	288	526	27	3	282	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	350	455	0	0	273	500	26	3	267	0	0	0	0	0	0	0	0	0	0
Turn Capacity (vph)	350	455	0	0	273	500	26	3	267	0	0	0	0	0	0	0	0	0	0
Turn Capacity (vph)	350	455	0	0	273	500	26	3	267	0	0	0	0	0	0	0	0	0	0
Turn Capacity (vph)	350	455	0	0	273	500	26	3	267	0	0	0	0	0	0	0	0	0	0
Protected Phases	12.5	12.5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases	12.5	12.5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Detector Phases	12.5	12.5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Minimum Initial (s)	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	96.8	96.8	0.0	0.0	30.7	30.7	22.5	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	64.5%	64.5%	0.0%	0.0%	20.5%	20.5%	15.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	25.2	25.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead-Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (%)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Time To Red (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (hr)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Act Elst Green (s)	26.8	26.8	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Act Elst Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Act Elst Green (s)	0.76	0.76	0.39	0.39	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Act Elst Green (%)	2.2	2.2	0.73	0.73	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Conflict Delay	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Conflict Delay (%)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Total Delay	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1
LOS	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
90th %ile Green (s)	26.2	26.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
90th %ile Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
70th %ile Green (s)	26.2	26.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
70th %ile Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
50th %ile Green (s)	26.2	26.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
50th %ile Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
30th %ile Green (s)	26.2	26.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
30th %ile Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
10th %ile Green (s)	26.2	26.2	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
10th %ile Green (%)	0.94	0.94	0.19	0.19	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

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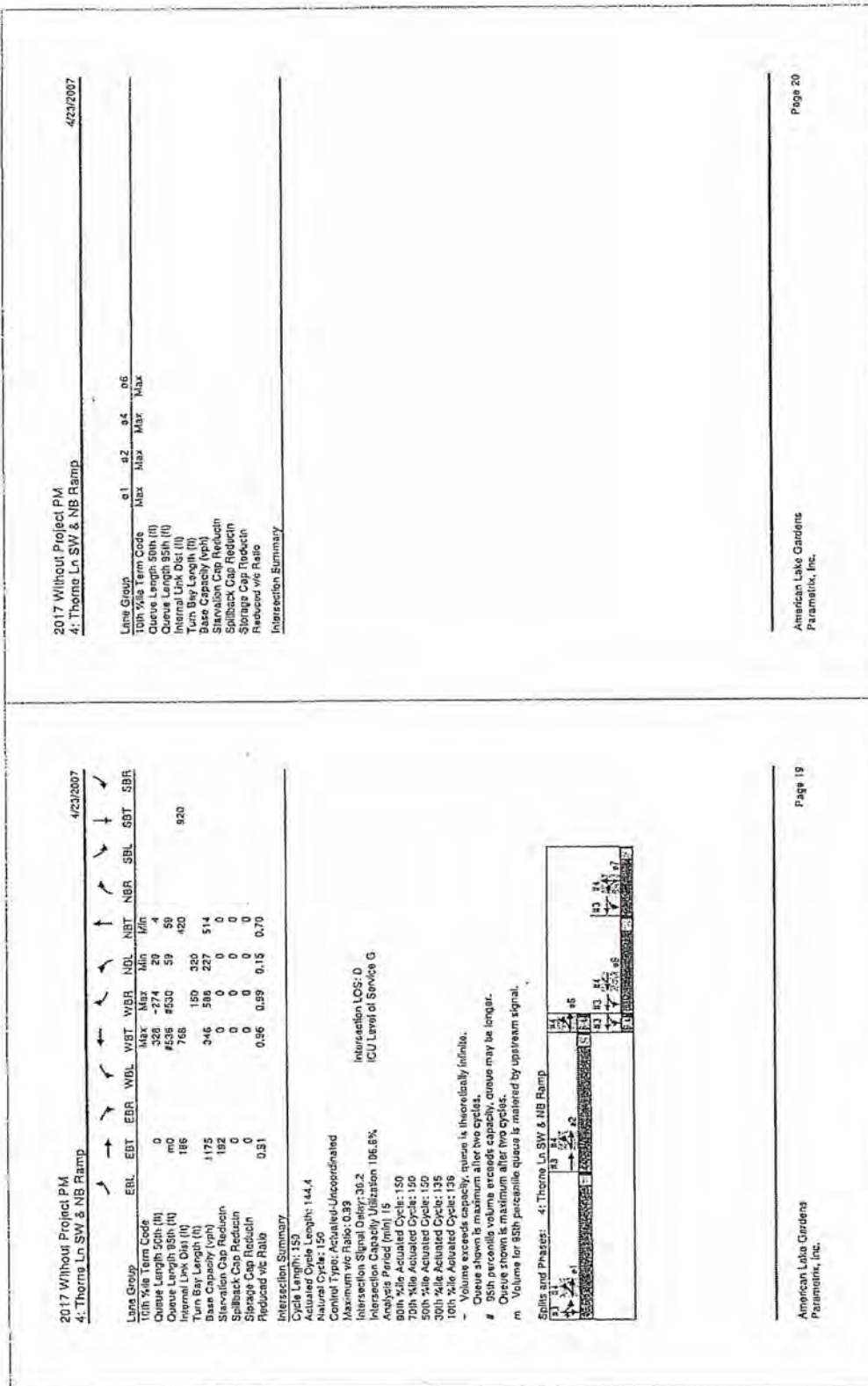
2017 Without Project PM
4: Thorne Ln SW & NB Ramp

4/3/2007

Lane Group	s1	s2	s3	s4	s5
Lane Configuration					
Total Left Time (s)					
Satd. Flow (veh/h)					
RT Permitted					
Satd. Flow (veh/h)					
Satd. Flow (RTOR)					
Volume (vph)					
Peak Hour Factor					
Adj. Flow (vph)					
Lane Group Flow (vph)					
Turn Type	1	2	4	6	
Protected Phases					
Permitted Phases					
Minimum Sptd (s)	5.0	8.0	1.0	1.0	
Minimum Sptd (s)	21.5	23.5	5.0	5.0	
Total Sptd (s)	45.6	44.2	5.0	5.0	
Total Sptd (%)	31%	29%	4%	4%	
Maximum Green (s)	42.1	39.7	1.0	1.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.5	1.5	
Lead/Lag	Lag	Lag	Lag	Lag	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	4.7	4.7	5.0	5.0	
Minimum Gap (s)	0.2	0.2	0.2	0.2	
Time Between Phases (s)	0.0	0.0	0.0	0.0	
Time To Red (s)	20.0	20.0	20.0	20.0	
Recall Mode	None	Min	None	None	
Walk Time (s)	6.0	6.0			
Flash Don't Walk (s)	11.0	13.0			
Pedestrian Calls (#/hr)	0	20			
Act Elcd Green (s)					
Actualized g/C Ratio					
Control Delay					
Queue Delay					
Initial Delay					
LOS					
Approach Delay					
Approach LOS					
80th %ile Green (s)	42.1	39.7	1.0	1.0	
80th %ile Term Code	Max	Max	Max	Max	
70th %ile Green (s)	42.1	39.7	1.0	1.0	
70th %ile Term Code	Max	Max	Max	Max	
50th %ile Green (s)	42.1	39.7	1.0	1.0	
50th %ile Term Code	Max	Max	Max	Max	
30th %ile Green (s)	42.1	39.7	1.0	1.0	
30th %ile Term Code	Max	Max	Max	Max	
10th %ile Green (s)	42.1	39.7	1.0	1.0	
10th %ile Term Code	Max	Max	Max	Max	

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[illegible]

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th Vltm Term Code	Max	Max	Max									
Queue Length 50th (ft)	-505	150		-1205								
Queue Length 95th (ft)	#789	#343		m90								
Internal Link Dist (ft)	220			186								
Turn Bay Length (ft)		150										
Base Capacity (veh)	366	440		1018								
Starvation Cap Reduction	0	0		170								
Starvation Cap Reduction	0	0		0								
Starvation Cap Reduction	0	0		0								
Starvation Cap Reduction	0	0		0								
Reduced V/C Ratio	1.27	0.80		1.42								

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Natural Cycle: 150
 Control Type: Actuated/Uncontrolled
 Maximum V/C Ratio: 1.42
 Intersection Signal Policy: 186.0
 Intersection Capacity Utilization: 114.0%
 Analysis Period (min): 15
 90th %ile Actuated Cycle: 150
 70th %ile Actuated Cycle: 150
 50th %ile Actuated Cycle: 150
 30th %ile Actuated Cycle: 150
 10th %ile Actuated Cycle: 150
 - Volume exceeds capacity, queue is theoretically infinite.
 - Queue shown is maximum after two cycles.
 - 95th percentile volume exceeds capacity, queue may be longer.
 - Queue shown is maximum after two cycles.
 - Volumes for EBL pinticane queue is entered by upstream signal.

Notes and Phases: 1: Berkeley St SW & SS Ramp

2017 With Project PM
1: Berkeley St SW & S9 Ramp

8/25/2004

Lane Group	94	95	96	97	98
10th Mile Term Code					
Queue Length 50th (ft)					
Queue Length 85th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Signalization Cap Reduction					
Storage Cap Reduction					
Reduced v/c Ratio					
Intersection Summary					

2017 With Project PM
2: Berkeley St NB Ramp

8/25/2004

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SSL	SBT	SNR
Lane Configuration	4	4	4	4	4	4	4	4	4	4	4	4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red. Flow (vph)	0	1840	0	0	1853	1563	0	1775	1583	0	0	0
Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Red. Flow (vph)	0	1840	0	0	1853	1563	0	1775	1583	0	0	0
Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Volume (vph)	194	614	0	0	839	1146	247	3	75	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	200	623	0	0	902	1234	377	3	79	0	0	0
Lane Group Flow (vph)	0	833	0	0	902	1234	0	380	78	0	0	0
Turn Type	Split	12.6	12.6	8	Free	Free	Split	7	Perm	0	0	0
Protected Phases	12.6	12.6	8	Free	Free	Free	7	7	7	0	0	0
Detector Phases	12.6	12.6	8	Free	Free	Free	7	7	7	0	0	0
Minimum Interval (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Minimum Green (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Total Split (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
Maximum Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lane-Lag Optimized?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduct (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to Reduct (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduct to Reduct (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash Cont Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Cals (ft/hr)	20	20	20	20	20	20	20	20	20	20	20	20
Adj Effct Green (s)	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Actualized v/c Ratio	0.46	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.96	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Control Delay	23.6	218.6	218.6	218.6	218.6	218.6	218.6	218.6	218.6	218.6	218.6	218.6
Queue Delay	112.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9
LOS	F	F	F	F	F	F	F	F	F	F	F	F
Approach Delay	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9
Approach LOS	F	F	F	F	F	F	F	F	F	F	F	F
90th %ile Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
10th %ile Green (s)	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3

2017 With Project PM
2: Berkeley & NB Ramp

8/25/2004

Line Group	01	02	04	05
Lane Configurations				
Total Lost Time (s)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Satd. Flow (RTOR)				
Volume (vph)				
Peak Hour Factor				
Adj. Flow (vph)				
Lane Group Flow (vph)				
Left				
Thru				
Right				
Prohibited Phases	1	2	4	5
Permitted Phases				
Detector Phases				
Minimum Initial (s)	6.0	6.0	4.0	4.0
Minimum Split (s)	20.5	22.7	10.5	10.5
Total Split (s)	29.0	33.5	10.5	10.5
Total Split (%)	10%	33%	7%	7%
Maximum Green (s)	24.5	28.8	6.0	6.0
Yellow Time (s)	3.5	3.7	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes
Vehicle Detector (s)	3.0	4.7	3.0	3.0
Minimum Opp (s)	0.9	3.0	0.2	0.2
Time Before Reduct (s)	30.0	30.0	0.0	0.0
Time To Reduct (s)	20.0	20.0	0.0	0.0
Recall Mode	None	Min	Min	Min
Walk Time (s)	6.0	6.0		
Flush Dont Walk (s)	10.0	12.0		
Pedestrian Cals (#/hr)	20	20		
Act Elld Green (s)				
Actualized g/C Ratio				
VC Ratio				
Control Delay				
Coasture Delay				
Start Delay				
LOS				
Approach Delay				
Approach LOS				
90th %ile Green (s)	24.5	28.8	6.0	6.0
90th %ile Term Code	Max	Max	Max	Max
70th %ile Green (s)	24.5	28.8	6.0	6.0
70th %ile Term Code	Max	Max	Max	Max
50th %ile Green (s)	24.5	28.8	6.0	6.0
50th %ile Term Code	Max	Max	Max	Max
30th %ile Green (s)	24.5	28.8	6.0	6.0
30th %ile Term Code	Max	Max	Max	Max
10th %ile Green (s)	24.5	28.8	6.0	6.0

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2017 With Project PM
2: Berkeley & NB Ramp

8/25/2004

Lane Group	EDL	EDT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SOT	SBR
10th Vile Term Code												
Queue Length 85th (ft)	201											
Queue Length 95th (ft)	m61											
Internal Link Dist (ft)	180											568
Turn Bay Length (ft)												
Base Capacity (vph)	846											
Starvation Cap Reductn	191											
Spillback Cap Reductn	0											
Storage Cap Reductn	0											
Reduced v/c Ratio	1.27											

Intersection Summary

Cycle Length: 150												
Actual Cycle Length: 150												
Natural Cycle: 150												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.61												
Intersection Signal Delay: 180.1												
Intersection Capacity Utilization 116.6%												
Analysis Period (min) 15												
10th Vile Actuated Cycle: 150												
20th Vile Actuated Cycle: 150												
50th Vile Actuated Cycle: 150												
20th Vile Actuated Cycle: 150												
10th Vile Actuated Cycle: 150												

Intersection LOS: F
ICU Level of Service: H

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Berkeley & NB Ramp

American Lake Gardens
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2017 With Project PM
2: Berkeley & NB Ramp

8/25/2004

Lane Group	e1	e2	e4	e6
10th Vile Term Code				
Queue Length 85th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

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2017 With Project PM 3: Thorne Ln SW & SB Ramp														8/26/2004
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	GBR		
Lane Configurations	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Through Turns (s)	0	0	0	0	0	0	0	0	0	0	0	0		
Through Flows (vph)	0	1663	1553	0	1757	0	0	0	0	0	1758	1568		
Left Turns (s)	0	0	0	0	0	0	0	0	0	0	0	0		
Left Flows (vph)	0	1853	1429	0	1757	0	0	0	0	0	1758	1401		
Right Turns (s)	0	0	0	0	0	0	0	0	0	0	0	0		
Right Flows (vph)	0	740	25	880	178	0	0	0	0	755	8	661		
Confl. Peds. (s/hr)	0.03	0.03	0.33	0.78	0.78	0.92	0.92	0.92	0.92	0.87	0.87	0.87		
Peak Hour Factor	2%	2%	2%	4%	4%	2%	2%	2%	2%	3%	3%	3%		
Heavy Vehicles (%)	0	798	31	872	229	0	0	0	0	868	8	790		
Adj. Flow (vph)	0	796	31	870	229	0	0	0	0	877	792	792		
Lane Group Flow (vph)	0	796	31	870	229	0	0	0	0	877	792	792		
Turn Type	Perm	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split		
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2		
Control Phases	2	2	2	2	2	2	2	2	2	2	2	2		
Control Policy	2	2	2	2	2	2	2	2	2	2	2	2		
Minimum Spill (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		
Maximum Spill (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5		
Total Spill (s)	0.0	34.0	34.0	78.0	78.0	0.0	0.0	0.0	0.0	31.5	21.5	21.5		
Maximum Green (s)	0.0%	22.7%	22.7%	52.0%	52.0%	0.0%	0.0%	0.0%	0.0%	25.3%	25.3%	25.3%		
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Lead-Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag		
Vehicle Extension (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Minimum Gap (s)	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7		
Time Before Redout (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min		
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0		
Pedestrian Call (s/hr)	20	20	20	20	20	20	20	20	20	20	20	20		
Actual Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		
Actual P/C Ratio	2.13	0.11	0.11	1.27	1.27	0.49	0.49	0.49	0.49	0.49	0.49	0.49		
Control Delay	547.4	36.4	36.4	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8		
Queue Delay	182.8	36.4	36.4	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8		
Turn Delay	709.9	36.4	36.4	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2	230.2		
Approach Delay	684.1	F	D	330.2	330.2	F	F	F	F	436.2	F	F		
Approach LOS	F	F	F	F	F	F	F	F	F	F	F	F		
90th Yile Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5		
90th Yile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max		
70th Yile Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5		
70th Yile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max		
50th Yile Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5		
50th Yile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max		
30th Yile Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5		
30th Yile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max		
American Lakes Gardens Parametrix, Inc.														Page 11

2017 With Project PM
3: Thorne Ln SW & SB Ramp

8/25/2004

Lane Group	e4	e0	e7	e8
Lane Configurations				
Total Lost Time (s)				
Base Flow (veh)				
Peak Flow (veh)				
Base Flow (RTOR)				
Volume (veh)				
Conf. Peds. (ft/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Lane Group Flow (vph)				
Turn Type				
Through Phases				
Through Phases				
Detector Phases				
Minimum Initial (s)	1.0	1.0	4.0	6.0
Minimum Split (s)	6.0	6.0	22.5	22.5
Total Split (%)	6.0	6.0	22.0	46.0
Total Split (%)	4%	4%	15%	33%
Maximum Green (s)	1.0	1.0	18.5	44.5
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.0	1.0
Lead/Lag	Yes	Yes	Yes	Yes
Lead-Lag Optimizer	7	7	7	7
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Vehicle Extension (s)	0.0	0.0	0.0	0.0
Time Between Phases (s)	0.0	0.0	0.0	0.0
Time To Red (s)	20.0	20.0	20.0	20.0
Recall Mode	None	None	None	None
Walk Time (s)	6.0	6.0	6.0	6.0
Flash Don't Walk (s)	12.0	12.0	12.0	12.0
Pedestrian Cuts (ft/hr)				
Act Eff Green (s)				
Actuated g/C Ratio				
VC Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
90th Xile Green (s)	1.0	1.0	18.5	44.5
90th Xile Term Code	Max	Max	Max	Max
70th Xile Green (s)	1.0	1.0	18.5	44.5
70th Xile Term Code	Max	Max	Max	Max
50th Xile Green (s)	1.0	1.0	18.5	44.5
50th Xile Term Code	Max	Max	Max	Max
30th Xile Green (s)	1.0	1.0	18.5	44.5
30th Xile Term Code	Max	Max	Max	Max
10th Xile Green (s)	1.0	1.0	18.5	44.5
10th Xile Term Code	Max	Max	Max	Max

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2017 With Project PM
3: Thorne Ln SW & SB Ramp

8/25/2004

Lane Group	EDL	EBT	WOL	WDT	WDR	NBL	NBT	NBR	SBL	SBT	SBR
30th Xile Term Code											
10th Xile Green (s)											
10th Xile Term Code											
Queue Length 50th (ft)											
Queue Length 50th (ft)											
Queue Length 50th (ft)											
Turn Bay Length (ft)											
Base Capacity (vph)											
Spillback Cap Reductn											
Storage Cap Reductn											
Reduced v/c Ratio											
Intersection Summary											
Actuated Cycle Length: 150											
Natural Cycle Length: 150											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 2.84											
Intersection Signal Delay: 430.1											
Intersection Capacity Utilization: 138.3%											
Analysis Period (min): 15											
20th Xile Actuated Cycle: 150											
70th Xile Actuated Cycle: 150											
50th Xile Actuated Cycle: 150											
30th Xile Actuated Cycle: 150											
10th Xile Actuated Cycle: 150											
- Volume exceeds capacity, queue is theoretically infinite.											
Queue shown is maximum after two cycles.											
# 95th percentile volume exceeds capacity, queue may be longer.											
Queue shown is maximum after two cycles.											
m Volume for 95th percentile queue is metered by upstream signal.											



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2017 With Project PM
3: Thorne Ln SW & SB Ramp

8/25/2004

Lane Group	0.1	0.6	0.7	0.8
30th %ile Term Code	Max	Max	Max	Max
50th %ile Term Code	Max	Max	Max	Max
70th %ile Term Code	Max	Max	Max	Max
Queue Length 50th (ft)				
Queue Length 85th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced V/C Ratio				
Intersection Summary				

2017 With Project PM
4: Thorne Ln SW & NB Ramp

8/25/2004

Lane Group	EDL	EBT	EDR	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost Time (s)	0	1824	0	0	1863	1553	1770	1585	0	0
Satd. Flow (prot)	0	0.379	0	0	0.379	0.350	0.350	0.350	0	0
Flt Permitted	0	1824	0	0	1863	1553	1770	1585	0	0
Satd. Flow (term)	0	0.379	0	0	0.379	0.350	0.350	0.350	0	0
Satd. Flow (RTOR)	0	0.379	0	0	0.379	0.350	0.350	0.350	0	0
Volume (vph)	608	828	0	0	878	1915	48	3	525	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	540	772	0	0	778	1728	60	4	440	0
Lane Group Flow (vph)	0	1512	0	0	878	2128	60	4	640	0
Turn Type Phases	12.6	12.6			8	8	7	7		
Proposed Phases	12.6	12.6			8	8	7	7		
Delivered Phases	12.6	12.6			8	8	7	7		
Minimum Initial (s)					6.0	6.0	4.0	4.0		
Minimum Split (s)					22.5	22.5	22.5	22.5		
Total Split (s)					78.0	78.0	23.0	23.0		
Total Split (%)					52.0%	52.0%	15.3%	15.3%		
Maximum Green (s)					44.5	44.5	18.5	18.5		
Yellow Time (s)					3.5	3.5	3.5	3.5		
All-Red Time (s)					1.0	1.0	1.0	1.0		
Lead/Lag					Lead	Lead	Lag	Lag		
Lead-Lag Optimizes?					Yes	Yes	Yes	Yes		
Vehicle Extension (s)					0.2	0.2	0.2	0.2		
Minimum Green (s)					0.2	0.2	0.2	0.2		
Time To Red (s)					0.0	0.0	0.0	0.0		
Time To Red (s)					0.0	0.0	0.0	0.0		
Recall Mode					None	None	None	None		
Walk Time (s)					6.0	6.0	6.0	6.0		
Flash Dent Walk (s)					12.0	12.0	12.0	12.0		
Pedestrian Calls (Min)					20	20	20	20		
Act Elct Green (s)					45.0	45.0	19.0	19.0		
Act Elct Green (s)					0.30	0.30	0.13	0.13		
Act Elct Green (s)					1.75	2.84	0.27	1.00		
Act Elct Green (s)					375.0	856.7	62.6	48.8		
Control Delay					111.5	111.5	111.5	111.5		
Queue Delay					465.1	465.1	465.1	465.1		
LOS					F	F	F	F		
Approach Delay					807.1	807.1	807.1	807.1		
Approach LOS					F	F	F	F		
80th %ile Green (s)					44.5	44.5	18.5	18.5		
90th %ile Green (s)					Max	Max	Max	Max		
70th %ile Term Code					Max	Max	Max	Max		
70th %ile Term Code					Max	Max	Max	Max		
70th %ile Term Code					Max	Max	Max	Max		
50th %ile Green (s)					44.5	44.5	18.5	18.5		
50th %ile Term Code					Max	Max	Max	Max		
30th %ile Green (s)					44.5	44.5	18.5	18.5		
30th %ile Term Code					Max	Max	Max	Max		
30th %ile Green (s)					44.5	44.5	18.5	18.5		
30th %ile Term Code					Max	Max	Max	Max		
30th %ile Green (s)					44.5	44.5	18.5	18.5		
30th %ile Term Code					Max	Max	Max	Max		

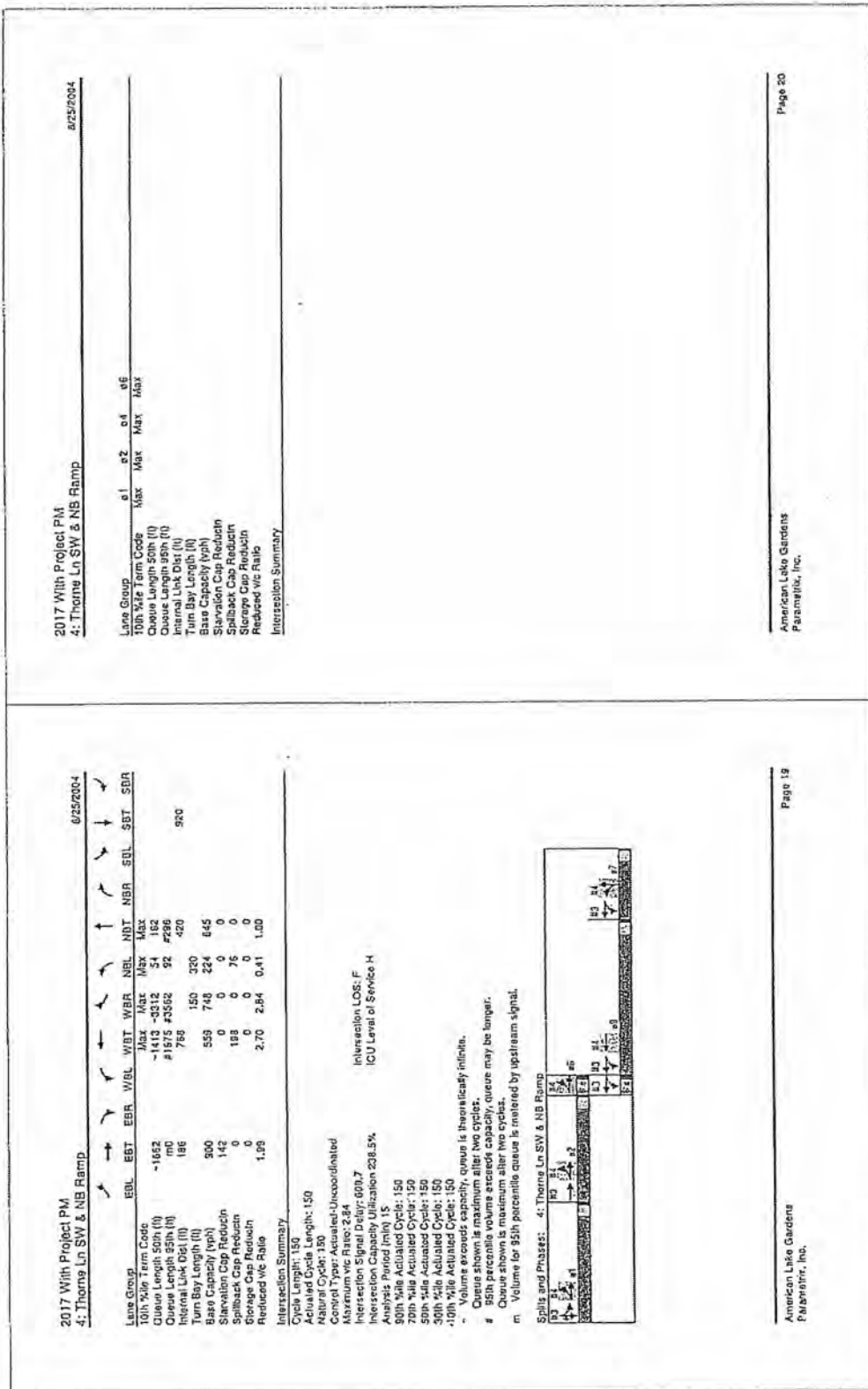
2017 With Project PM
4: Thorne Ln SW & NB Ramp

8/25/2014

Line Group	a1	a2	a3	a4	a5
Line Configurations					
Start Lost Time (s)					
Start Flow (vph)					
PM Permitted					
Satd Flow (serm)					
Satd Flow (RTOR)					
Volume (vph)					
Peak Hour Factor					
Adj. Flow (vph)					
Line Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	6	
Permitted Phases					
Detector Phases					
Minimum Initial (s)	6.0	8.0	1.0	1.0	
Minimum Spd (s)	21.5	23.5	6.0	6.0	
Minimum Spd (ft)	28.0	31.0	8.0	8.0	
Total Spd (ft)	29.5	32.5	9.0	9.0	
Total Spd (mi)	33.5	39.5	1.0	1.0	
Maximum Green (s)	3.5	3.5	3.5	3.5	
Yellow Time (s)	1.0	1.0	1.5	1.5	
All Red Time (s)	1.0	1.0	1.5	1.5	
Lead/Lag	Lead	Lag			
Lead-Lag Optimizer?	Yes	Yes			
Vehicle Extension (s)	4.7	4.7	3.0	3.0	
Minimum Gap (s)	0.2	0.2	0.2	0.2	
Time Before Reduct (s)	0.0	0.0	0.0	0.0	
Time to Reduct (s)	20.0	20.0	20.0	20.0	
Time to Reduct (ft)	None	None	None	None	
Walk Time (s)	11.0	13.0			
Flash Dwell Walk (s)	0.0	0.0			
Pedestrian Cuts (ft/s)	11.0	13.0			
Act Elcd Green (s)	0	20			
Adjusted O/C Ratio					
VC Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
80th Yile Green (s)	33.5	39.5	1.0	1.0	
80th Yile Term Code	Max	Max	Max	Max	
70th Yile Green (s)	33.5	39.5	1.0	1.0	
70th Yile Term Code	Max	Max	Max	Max	
50th Yile Green (s)	33.5	39.5	1.0	1.0	
50th Yile Term Code	Max	Max	Max	Max	
30th Yile Green (s)	33.5	39.5	1.0	1.0	
30th Yile Term Code	Max	Max	Max	Max	
10th Yile Green (s)	33.5	39.5	1.0	1.0	

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2017 With Project PM S: 150th St SW & Murray Rd SW														8/25/2004	
Lane Group															
Lane Configurations															
Said Flow (ftol)															
Peak Hour Factor															
Volume (vph)															
Heavy Vehicles (%)															
Bus Blockage (ft/hr)															
Adj. Flow (vph)															
Lane Group Flow (vph)															
Sign Control															
Intersection Summary															
Control Type: Unsignalized															
Intersection Capacity Utilization 133.8%															
Analysis Period (min) 15															
ICU Level of Service H															
Intersection Summary															
Delay															
ICU Level of Service															
Intersection Capacity Utilization															
Analysis Period (min)															
ICU Level of Service															
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2017 With Project PM S: 150th St SW & Murray Rd SW														8/25/2004	
Movement															
Lane Configurations															
Sign Control															
Volume (vph)															
Peak Hour Factor															
Hourly Flow Rate (vph)															
Direction, Lane #															
Volume Total (vph)															
Volume Left (vph)															
Volume Right (vph)															
Head (s)															
Departure Headway (s)															
Degree Utilization, x															
Capacity (vph)															
Control Delay (s)															
Approach Delay (s)															
Approach LOS															
Intersection Summary															
Delay															
ICU Level of Service															
Intersection Capacity Utilization															
Analysis Period (min)															
ICU Level of Service															
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APPENDIX D

PLAN REVIEW UNDER THE STATE ENVIRONMENTAL POLICY ACT (SEPA)

CITY OF LAKEWOOD

COMMUNITY DEVELOPMENT DEPARTMENT

ENVIRONMENTAL CHECKLIST APPLICATION FORM

A. BACKGROUND

1. Name of proposed project, if applicable: *Tillicum Neighborhood Plan*
2. Name of applicant: *City of Lakewood*
3. Address and phone number of applicant and contact person: *Deborah Johnson, Senior Planner, Lakewood Community Development Department, 6000 Main St. SW, 2nd floor, Lakewood, WA 98499-5027; 253.512.2261.*
4. Date checklist prepared: *April 15, 2009*
5. Agency requesting checklist: *City of Lakewood*
6. Proposed timing or schedule (including phasing, if applicable): *Although a firm schedule has not been established, adoption of the plan is expected to occur no later than July 31, 2009.*
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. The plan identifies and is intended to guide a series of implementing actions which, along with general time frames, are set out in implementation tables included in the document. The implementing actions include some that are currently programmed and already in various stages of being carried out, such as the installation of sewer trunk lines to serve Tillicum. They also include a combination of infrastructure improvements and other such "on the ground" projects and actions that are in the realm of policy or community/interagency involvement. Further, some implementing actions are unprogrammed, unfunded, and not directly under the City's purview so will undoubtedly take longer to come about. For major actions already underway, environmental review has already been completed or is in process. Where required, project-level environmental review will occur at the time specific implementing actions are undertaken.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

City of Lakewood: City of Lakewood Comprehensive Plan Final Environmental Impact Statement (2000); City of Lakewood Comprehensive Plan Supplemental Environmental Impact Statement (2003);

SEPA checklist/DNS for Parks & Recreation Master Plan (2005); American Lake Gardens (ALG)/Tillicum Sewer Extension Environmental Assessment (2007)

External: NEPA Documented Categorical Exclusion (WSDOT Pt. Defiance Rail Bypass project); FEIS & FHWA Record of Decision (WSDOT Cross-Base Highway/SR 704)

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No project-level permits are known to be pending related to any of the implementation actions included in the proposed plan. Project-level permits have already been acquired for some of the implementing actions included within the plan, as they predated the subarea planning effort.

10. List any government approvals or permits that will be needed for your proposal, if known.

Some elements of the implementing actions will require governmental approvals or permits related to general land use/construction, shoreline uses, etc. Depending on the outcome of key decisions posed within the plan, such as the future of Tillicum Elementary School, a public vote may be required to authorize capital funds via levy. Where required, project-level permits and approvals will be acquired prior to carrying out specific implementing actions.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Adoption is proposed of a subarea plan for Tillicum, entitled the Tillicum Neighborhood Plan. Per RCW 36.70A.080(2), a subarea plan is considered to be an optional element of a comprehensive plan. In this sense, the document under consideration is a "proposed GMA action" under WAC 197-11-220(3). The Tillicum Neighborhood Plan is complementary to and is generally consistent with the City of Lakewood Comprehensive Plan and is intended to further improvements, both "on the ground" and to the overall quality of life, in the Tillicum neighborhood of Lakewood. As part of its implementing actions, the plan is expected to result in subsequent adjustments to zoning and development regulations for portions of Tillicum, as well as future capital investment. As the City is statutorily required to review and, if necessary, update its comprehensive plan by the end of 2011, certain adjustments may also be made to the overall plan that reflect the more precise nature of the subarea plan.

This SEPA document, together with the resultant threshold determination and any other relevant documentation, is intended to be merged with the proposed plan to form an "integrated non-EIS document" under WAC 197-11-235(3). In the end, the adoption action would consider an integrated SEPA/GMA document under WAC 197-11-210 through -238 (generally).

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *The proposed plan applies specifically to the Tillicum neighborhood of Lakewood. The plan's Figure 1, Neighborhood Plan Area, is appended to this document.*

13. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The proposed comprehensive plan and development code changes are expected to work in concert with local, state, and federal laws to protect the environment. No conflicts are known at this time. Any conflicts identified would be corrected in an appropriate manner.

B. ENVIRONMENTAL ELEMENTS

This section is not included per WAC 197-11-235(3)(b).

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: /s/ *Deborah Johnson*

Deborah Johnson

Title: Senior Planner, City of Lakewood

Date: April 15, 2009

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

1. How would the proposal be likely to increase discharge to water; emission to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The proposed plan would not result in increased discharges to water; emissions to air; production, storage or release of toxic or hazardous substances; or noise production.

The Point Defiance Bypass project, which is discussed in but is not a product of this plan, and is not a project of the City's, has a strong relationship with Tillicum and is likely to increase transient noise and vibration within the plan area. The Washington State Department of Transportation has conducted environmental review relative to this project and has issued a NEPA Documented Categorical Exclusion following issuance of a SEPA DNS. Effectively, noise impacts are dismissed although the City continues to be concerned about them.

The document contains information relative to stormwater facilities that, once installed, are intended to improve stormwater handling capability within the area and reduce surface water runoff to American Lake.

Generally, in that the plan is intended to provide for the development of additional neighborhood services, it aims to diminish carbon emissions by curtailing the need for area residents to travel to other parts of the city for services. Further, it is hoped that improving the neighborhood's sense of security and image will stimulate a renaissance in housing interest within Tillicum, which could in turn lead to decreased commuting distances should military members and civilian employees locate there.

2. Proposed measures to avoid or reduce such increases are:

No negative impacts have been identified as a result of the plan, so no measures are proposed. Any project-level impacts that may arise in the future will be avoided and reduced by implementation of existing regulations. Unless exempt, individual projects will be required to conduct project-specific SEPA review and evaluate impacts on water, air, noise, and toxics production.

3. How would the proposal be likely to affect plants, animals, fish, or marine life?

The adopted City of Lakewood Comprehensive Plan and development regulations seek to protect biotic resources. The proposed subarea plan makes no changes to these protections.

4. Proposed measures to protect or conserve plants, animals, fish, or marine life?

Specific measures to protect and conserve biotic resources include federal and state endangered species regulations, site-specific SEPA reviews, the Critical Areas and Resource Lands Ordinance, shoreline management regulations, and tree retention provisions of the adopted development regulations. None of the proposed plan's implementing actions are expected to affect the City's efforts in these subject areas. Any project-level impacts that may arise in the future will be avoided and reduced by implementation of existing regulations. Unless categorically exempt, individual projects will be required to conduct project-specific SEPA review and evaluate impacts on plants, animals, fish and marine life.

5. How would the proposal be likely to deplete energy or natural resources?

The proposed amendments are not expected to deplete natural resources. Any increased energy demand would be incidental to neighborhood revitalization, in order to serve housing and commercial uses within the area.

6. Proposed measures to protect or conserve energy and natural resources are:

No negative impacts have been identified as a result of the plan, so no measures are proposed. Any project-level impacts that may arise in the future will be avoided and reduced by implementation of existing regulations. Unless categorically exempt, individual projects will be required to conduct project-specific SEPA review and evaluate impacts on energy and natural resources.

7. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The proposed amendments are not expected to use or affect environmentally sensitive areas or areas designated or eligible for governmental protection. Improvements to Harry Todd Park and shoreline access are discussed within the plan and are a product of the earlier Parks and Recreation Master Plan; and are intended to enhance the utility of the existing park and public shoreline access. Historic/ landmark sites are also discussed within the plan but are not sought to be changed.

8. Proposed measures to protect such resources or to avoid or reduce impacts are:

Specific measures to protect and conserve environmentally sensitive or other protected areas include federal and state endangered species regulations, site-specific SEPA reviews, the Critical Areas and

Resource Lands Ordinance, shoreline management regulations, historic designation, and tree retention provisions of the adopted development regulations. None of the proposed plan's implementing actions are expected to affect the City's efforts in these subject areas. Any project-level impacts that may arise in the future will be avoided and reduced by implementation of existing regulations. Unless categorically exempt, individual projects will be required to conduct project-specific SEPA review and evaluate impacts on environmentally sensitive and other protected areas.

9. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The plan's implementing actions include reevaluation of the commercial zoning along Union Avenue SW, with a goal of directing freeway-serving commercial uses to the side of Union adjacent to I-5, while placing neighborhood-serving commercial on the other side, adjacent to the residential areas. Together with road improvements both suggested separately and as a part of the pending sewer project, this should improve the availability of services for neighborhood residents, while meeting demand for retail uses more likely to appeal to freeway passersby and inbound commuters (particularly military). Another goal of this action would be to stimulate redevelopment of the commercial area as much of it is older and run-down, making it more appealing to users and contributing to an improved sense of neighborhood identity. This action would be fundamentally consistent with the existing comprehensive plan future land-use designation for the area, while "fine tuning" it somewhat.

Implementing actions also include mechanisms to make it easier and less expensive to situate housing in Tillicum. This is intended to stimulate redevelopment of existing low-value sites while resulting in development that is in harmony with the existing neighborhood.

Shoreline uses addressed within the plan are generally existing, although it does encourage examination of where additional public access to American Lake could be provided.

10. Proposed measures to avoid or reduce shoreline and land use impacts are:

No negative impacts have been identified as a result of the plan, so no measures are proposed. Any project-level impacts that may arise in the future will be avoided and reduced by implementation of existing regulations. Unless categorically exempt, individual projects will be required to conduct project-specific SEPA review and evaluate impacts on land and shoreline use.

11. How would the proposal be likely to increase demands on transportation or public services and utilities?

As noted above, it is hoped that implementation of the plan will diminish carbon emissions by curtailing the need for area residents to travel to other parts of the city for services. Further, improving the neighborhood's sense of security and image is intended to stimulate improved housing interest, which could in turn lead to decreased commuting distances should military members and civilian employees locate there.

The plan references other initiatives, such as the Cross-Base Highway, that may affect and pose a significant relationship with transportation demands in the area. However, these are not a direct result of the plan itself but are merely accounted for within the document as having an influence on the area.

The most significant transportation influence is thought to be the presence of the adjacent military base, which impacts a number of I-5 interchanges in Lakewood, but particularly the Berkeley interchange at peak. Again this is an external condition which is discussed in, but is not a product of, the proposed plan. The City is separately undertaking joint planning with WSDOT and others related to transportation impacts of base growth, funded in part by the Dept. of Defense Office of Economic Adjustment (OEA). The outcome of the work to be performed under the OEA grant, which is just getting underway, may offer future adjustments in terms of connectivity and transportation planning for Tillicum.

In terms of public services, a primary goal of the subarea plan is to revitalize the Tillicum neighborhood by increasing public involvement and community leadership in order to inspire an increased sense of identity and belonging. Although nebulous, such social aspects tend to bear a relationship to draw on services such as policing, code enforcement, and assistance with basic needs. If the goal of neighborhood improvement is met, it should decrease such public services demands in this area.

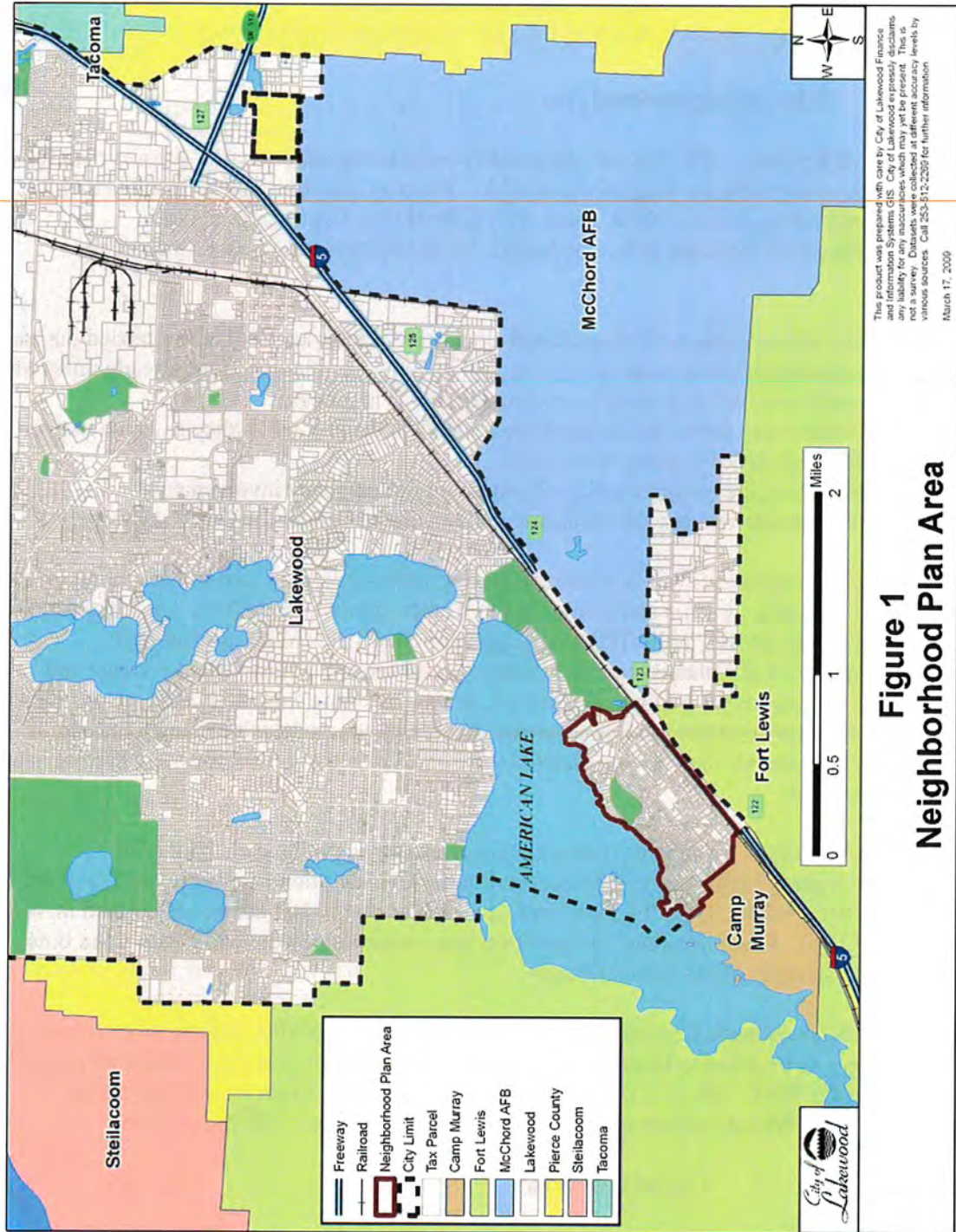
Planned sewer extension is, by design, intended to heighten demand for sewer services. This project is already proceeding irrespective of the plan. At the same time, this will lessen the use of individual septic systems and eventually will improve wastewater handling in the area. No other increases in utilities demand have been identified.

12. Proposed measures to reduce or respond to such demand(s) are:

Since no unplanned-for demand increases have been identified, no measures are proposed. Individual projects will be required to conduct project-specific SEPA review and evaluate impacts on transportation, public services, and utilities.

14. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The proposed comprehensive plan and development code changes are expected to work in concert with local, state, and federal laws to protect the environment. No conflicts are known at this time. Any conflicts identified would be corrected in an appropriate manner.



CITY OF LAKEWOOD

DETERMINATION OF NONSIGNIFICANCE

Project: Tillicum Neighborhood Plan

Description of Project: The City of Lakewood is considering adoption of a subarea plan for Tillicum, entitled the *Tillicum Neighborhood Plan*. The plan identifies and is intended to guide a series of implementing actions which, along with general time frames, are set out in implementation tables included in the document. These implementing actions include the following:

- Actions that are currently programmed and already in various stages of being carried out, such as the installation of sewer trunk lines to serve Tillicum. For major actions already underway, environmental review has already been completed or is in process.
- Future infrastructure improvements and other such “on the ground” projects, which may or may not have identified funding at this time.
- Actions that are in the realm of policy or community/interagency involvement.
- Actions that are unprogrammed, unfunded, and not directly under the City’s purview.

The *Tillicum Neighborhood Plan* is complementary to and is generally consistent with the *City of Lakewood Comprehensive Plan* and is intended to further improvements, both “on the ground” and to the overall quality of life, in the Tillicum neighborhood of Lakewood. As part of its implementing actions, the plan is expected to result in subsequent adjustments to zoning and development regulations for portions of Tillicum, as well as future capital investment. As the City is statutorily required to review and, if necessary, update its comprehensive plan by the end of 2011, certain adjustments may also be made to the overall plan that reflect the more precise nature of the subarea plan.

Per RCW 36.70A.080(2), a subarea plan is considered to be an optional element of a comprehensive plan. In this sense, the document under consideration is a “proposed GMA action” under WAC 197-11-220(3). At the same time, it is also a “nonproject action” as defined in WAC 197-11-704((2)(b)). Where required, project-level environmental review will occur at the time specific implementing actions are undertaken.

This threshold determination, together with the environmental checklist and any other relevant documentation, is intended to be merged with the proposed plan to form an “integrated non-EIS document” under WAC 197-11-235(3). In the end, the adoption action would consider an integrated SEPA/GMA document under WAC 197-11-210 through -238 (generally).

Proponent: City of Lakewood

Lead Agency: City of Lakewood

The lead agency has determined that this proposal does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was based on staff review of the environmental checklist

and application materials, and other information on file with the lead agency. This Determination of Nonsignificance (DNS) is supported by plans, policies, and regulations adopted by the City of Lakewood for the exercise of substantive authority under SEPA, and is specifically conditioned with the conditions.

_____ There is no comment period for this DNS.

____XXX____ This DNS is issued under WAC 197-11-340(2)(a)(v). The lead agency will not act on this proposal for 14 days beginning on April 24, 2009, and ending on May 8, 2009. Comments, if any, must be submitted within this time period. Written comments are encouraged and may be e-mailed to <djohnson@cityoflakewood.us>.

Responsible Official: M. David Bugher
Position/Title: Community Development Director/Asst. City Manager
Address: Lakewood Community Development Dept., 6000 Main Street SW,
Lakewood, WA 98499-5027
Phone: 253.512.2261

Dated: April 24, 2009 **Signature:** /s/ *M. David Bugher*

APPEAL PROCESS: The proposed plan constitutes a Type V application under Title 18A LMC. No administrative appeal is allowed of environmental determinations for this type of application. The determination of the environmental official shall be considered final per LMC 14.02.200.

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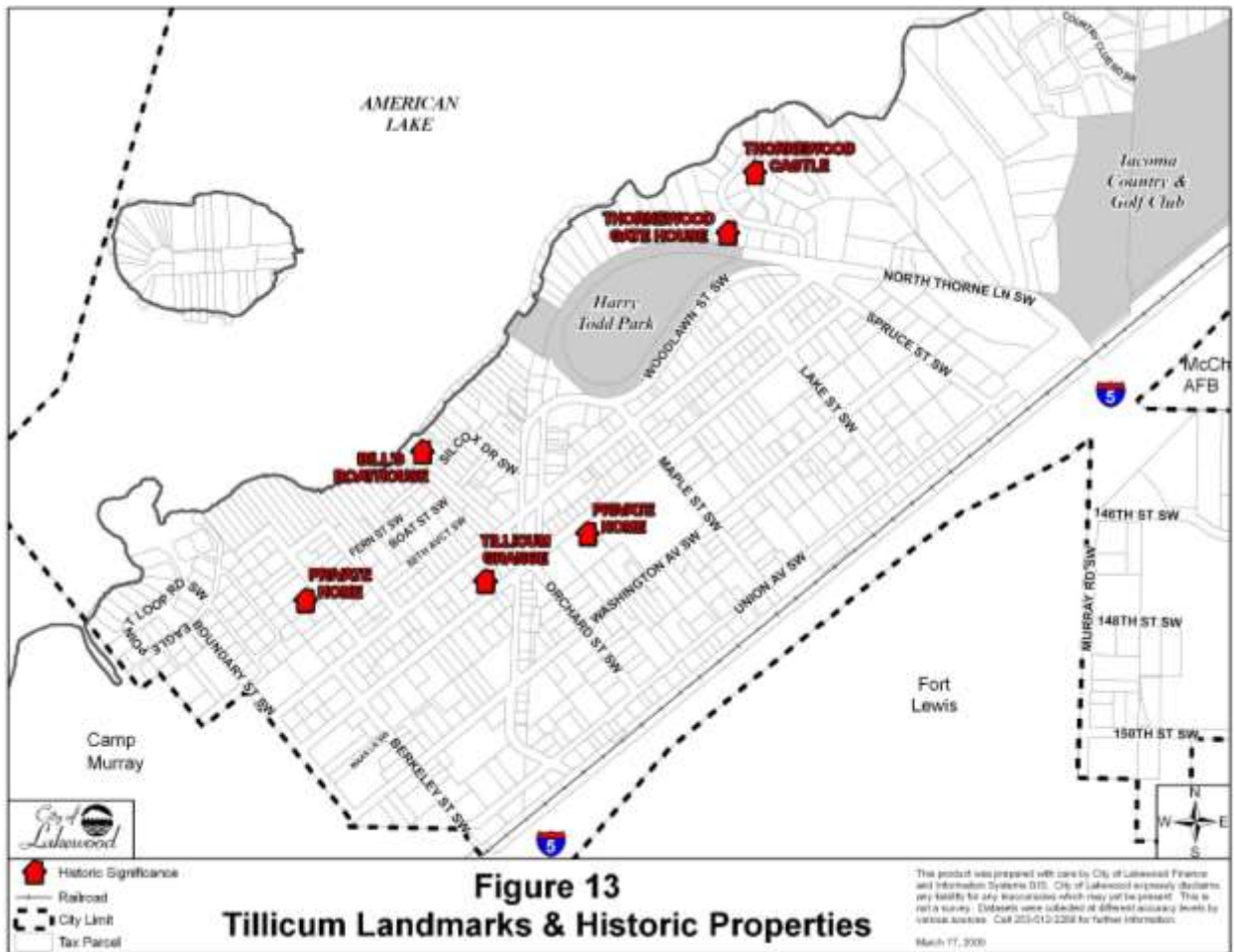
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ATTACHMENT D **2009 Landmarks and Historic Properties in Tillicum**



2022-04 Review Comprehensive Plan Zoning and Policies and Municipal Code related to Adult Family Homes (AFHs) to determine whether to allow AFHs in Air Corridor 1 (AC1) and Air Corridor 2 (AC2) zones.

When the 2022 Comprehensive Plan amendment cycle docket was being considered in the fall of 2021, public comments were submitted by the Adult Family Homes Council regarding one of its members wanting to open an adult family homes in the City's Air Corridor 2 (AC2) land use zone. The letter is included with this memorandum as Attachment E.

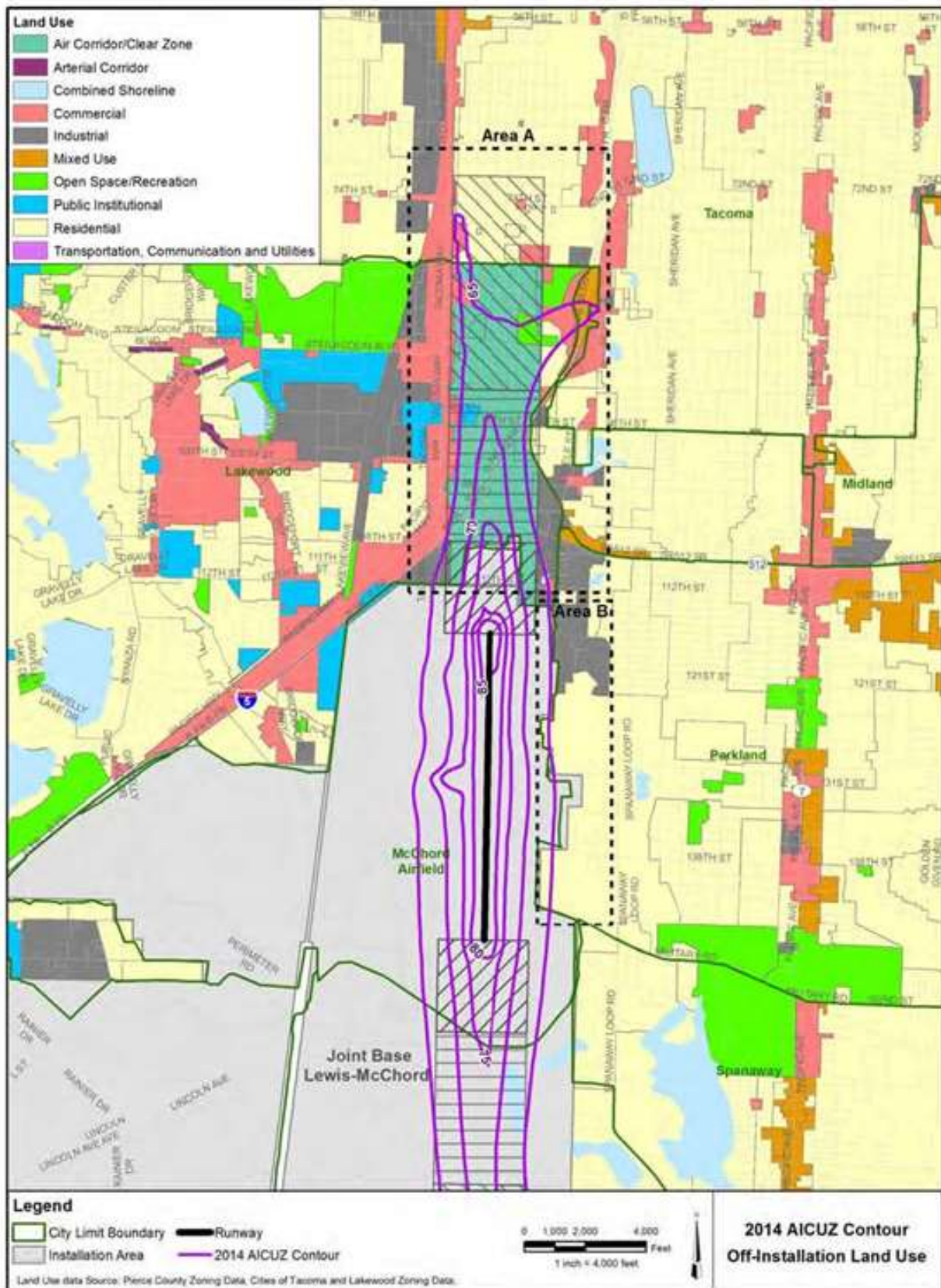
The following analysis is included as a response to the Adult Family Homes Council comments.

The City of Lakewood is host city to Joint Base Lewis McChord (JBLM), and portions of the JBLM flight patterns' Clear Zone (CZ) and accident potential zones (APZs) are located within the City's boundaries. The City follows Department of Defense (DoD) and FAA guidance and limits land use densities within the CZ and APZs though city land use zoning.

Note: "Zone" as used by the military in the AICUZ study has a different and more general meaning than "zone" as used in City of Lakewood land use planning.

The maps on the next two pages display the relationship between the military accident potential zones and the City's Clear Zone (CZ), Air Corridor 1 (AC1), and Air Corridor 2 (AC2) land use zones.

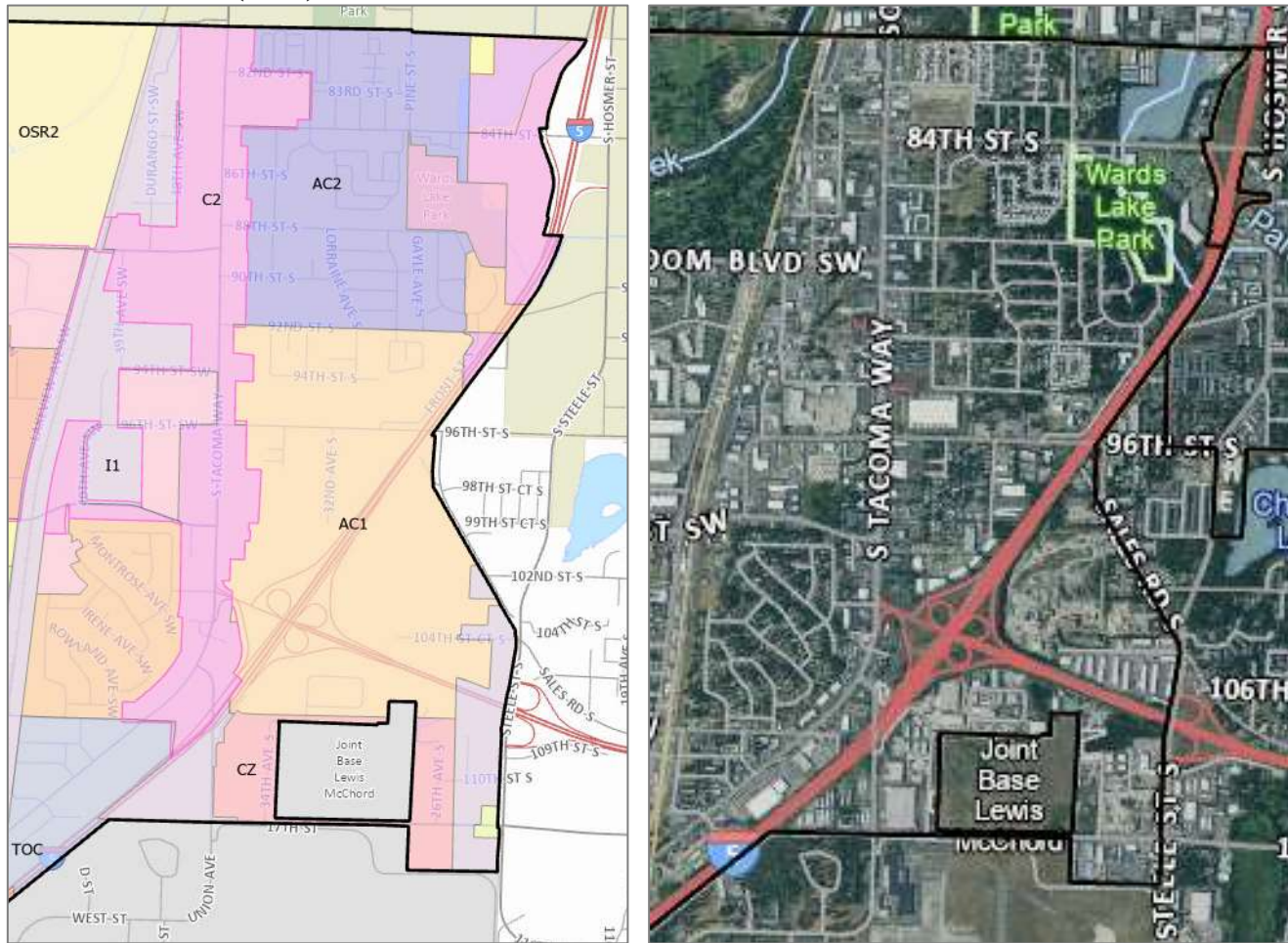
2014 AICUZ Contour and Off-Installation Land Use



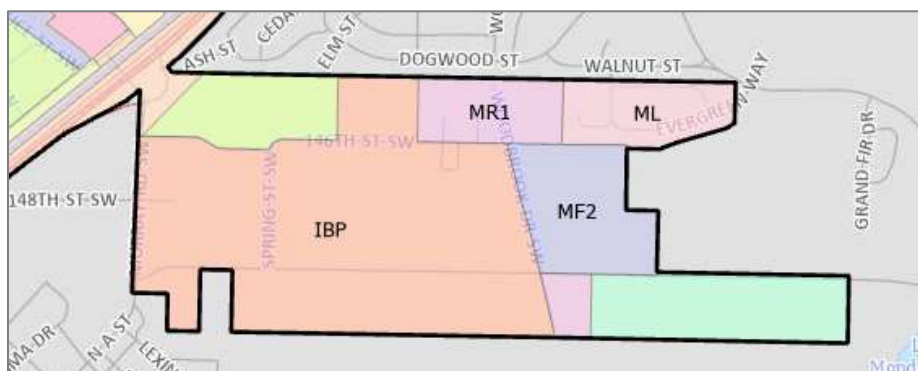
JBLM MIAO - McChord Field North Aircraft Safety Zones - Lakewood



The maps below display the Lakewood Clear Zone (CZ), Air Corridor 1 (AC1) and Air Corridor 2 (AC2) land use zones:



The map below displays the small area of land in NE Woodbrook that are zoned Military Lands (ML.) No change to the ML zone or its parcels is included in this amendment.



The Air Corridor 1 (AC1) and Air Corridor 2 (AC2) and Military Lands (ML) land use zones cover approximately 5% of Lakewood's acreage and currently hold 1,832 non-conforming housing units. The housing units in the AC1 and AC2 zones have been

designated nonconforming because they are located within the military-identified Accident Potential Zones (APZs) for North McChord Airfield on Joint Base Lewis McChord (JBLM) and exceed safe land use density near the airfield due to risk of crashes.

Per the Department of Defense's (DoD's) 2015 JBLM Air Installation Compatibility Use Zone (AICUZ) Report, the existing residential development within the City's AC1, AC2 and ML zones are significantly above densities compatible with JBLM operations. As stated in the AICUZ report at pages 5-9, "**in general, residential land use is incompatible** with the accident potential in the CZ and APZs; however, detached single family housing with a **maximum density of one to two dwelling units per acre (DU/acre)** is compatible with restrictions with accident potential in APZ II."

Lakewood has long planned that the residential development in the AC1 and AC2 zones will be replaced by low density, non-residential uses compatible with military operations. Current residential uses within the AC1 and AC2 zones are nonconforming.¹ **This is to comply with not only DoD and FAA air safety guidance, but also with Washington State law and multi-county planning policy in VISION 2050:**

- RCW 36.70A.530 (3) ("A comprehensive plan, amendment to a plan, a development regulation or amendment to a development regulation, should not allow development in the vicinity of a military installation that is incompatible with the installation's ability to carry out its mission requirements. A city or county may find that an existing comprehensive plan or development regulations are compatible with the installation's ability to carry out its mission requirements");
- VISION 2050 Policy MPP-DP-49 ("Protect military lands from encroachment by incompatible uses and development on adjacent land"); and
- RCW Chapter 43.330.515 and .520 regarding military installation incompatible development.

The 1,832 nonconforming housing units in the AC1, AC2 and ML zones will eventually be phased out of the areas. With the exception of detached single-family units on lots greater than 20,000 square feet in the AC2 zone, new residential development in these three land use zones is prohibited. Future residential units in Lakewood will be built outside of the North McChord Field accident potential zones.

The allowed densities within the City's AC1 and AC2 land use zones are listed below. Rather than dwelling units per acre as used for the City's other land use zones, these zones' densities are calculated as persons per acre consistent with DoD and FAA guidance:

¹ (Under LMC 18A.10.180, "Nonconforming use" means a use of land or a structure which was lawful when established and which does not now conform to the use regulations of the zone in which it is located. A use shall be considered established if it conformed to applicable zoning regulations at any time, or when it has commenced under permit, a permit for the use has been granted and has not expired, or a structure to be occupied by the use is substantially underway as defined in the International Building Code.

Land Use Zoning District	Density
Clear Zone (CZ)	Within the CZ zoning district, the total number of people on a site at any time shall not exceed one person per 4,356 square feet of gross site area, or 10 persons per acre .
Air Corridor 1 (AC1)	Within the AC1 zoning district, the total number of people on a site at any time shall not exceed one person per 1,742 square feet of gross site area, or 25 persons per acre .
Air Corridor 2 (AC2)	Within the AC2 zoning district, the total number of people on a site at any time shall not exceed one person per 871 square feet of gross site area, or 50 persons per acre .

Under LMC 18A.10.135.10 Compatible Use Standards,

A. Aircraft Safety Zones.

1. Certain properties within the City of Lakewood are located within the JBLM Accident Potential Zones and Clear Zones as indicated in Figure 3A. Accident Potential Zones and Clear Zones associated with Gray Army Airfield do not encompass any lands outside of JBLM boundaries.
2. According to the AICUZ Study and current Air Force guidance, certain land uses in these areas are not compatible with air operations at JBLM, given the increased potential of aircraft accidents in these areas.
3. **Unless expressly exempt, any land uses located within the JBLM Accident Potential Zones and Clear Zones shall be consistent with [AICUZ Study] Appendix A: Land Use Compatibility Recommendations for APZs.**

Lakewood Municipal Code (LMC) section 18A.40.130 regulates AICUZ-related land uses. Uses allowed within the AC1 and AC2 zones are displayed below. Residential uses of any kind are severely limited to be consistent with AICUZ guidance, state law, Lakewood policies and PSRC policy. All special needs housing uses are prohibited.

P: Permitted Use C: Conditional Use “–”: Not Allowed N/A: Not Applicable

Land Use Categories	APZ-I	APZ-II	CZ	Density
Existing Uses				
Continuation of uses already legally existing within the zone at the time of adoption of this chapter. Maintenance and repair of existing structures shall be permitted.	P	P	–	N/A
Alteration or modification of nonconforming existing uses and structures.	C	C	–	N/A
Agriculture and Natural Resources				
Agriculture	–	–	–	N/A
Agriculture, clear zone	–	–	P	N/A

Land Use Categories	APZ-I	APZ-II	CZ	Density
Agriculture, home	P	P	–	N/A
Natural resource extraction/recovery	C	C	–	Maximum FAR of 0.28 in APZ-I, no activity which produces smoke, glare, or involves explosives.
Research, scientific (small scale)	C	P	–	Office use only. Maximum FAR of 0.22 in APZ-I and APZ-II.
Undeveloped land	P	P	P	N/A
Residential Uses				
Accessory caretaker's unit	–	–	–	N/A
Accessory dwelling unit	–	–	–	N/A
Cottage housing	–	–	–	N/A
Cohousing (dormitories, fraternities and sororities)	–	–	–	N/A
Detached single-family on lot less than 20,000 square feet	–	–	–	N/A
Detached single-family on lot greater than 20,000 square feet	–	P	–	N/A
Two-family residential, attached or detached dwelling units	–	–	–	N/A
Three-family residential, attached or detached dwelling units	–	–	–	N/A
Multifamily, 4 or more residential units	–	–	–	N/A
Mixed use	–	–	–	N/A
Home occupation	P	P	–	N/A
Mobile home parks	–	–	–	N/A
Mobile and/or manufactured homes, in mobile/manufactured home parks	–	–	–	N/A
Rooms for the use of domestic employees of the owner, lessee, or occupant of the primary dwelling	–	P	–	N/A
Child care facility	–	–	–	N/A
Child day care center	–	–	–	N/A
Family day care provider	–	–	–	N/A
Special Needs Housing (Essential Public Facilities)				
Type 1 group home	–	–	–	N/A
Type 2 group home	–	–	–	N/A

Land Use Categories	APZ-I	APZ-II	CZ	Density
Type 3 group home	–	–	–	N/A
Type 4 group home	–	–	–	N/A
Type 5 group home	–	–	–	N/A
Assisted living facilities	–	–	–	N/A
Continuing care retirement community	–	–	–	N/A
Hospice care center	–	–	–	N/A
Enhanced services facility	–	–	–	N/A
Nursing home	–	–	–	N/A
Commercial and Industrial Uses				
Building and landscape materials sales	P	P	–	Maximum FAR of 0.28 in APZ I and 0.56 in APZ II.
Building contractor, light	P	P	–	Maximum FAR of 0.28 in APZ I and 0.56 in APZ II.
Building contractor, heavy	C	–	–	Maximum FAR of 0.11 in APZ I and 0.22 in APZ II.
Business support service	P	–	–	Maximum FAR of 0.22 in APZ I.
Catering service	P	P	–	Maximum FAR of 0.22 in APZ II.
Construction/heavy equipment sales and rental	C	C	–	Maximum FAR of 0.11 in APZ I; and 0.22 in APZ II.
Equipment rental	P	P	–	Maximum FAR of 0.11 in APZ I; and 0.22 in APZ II.
Furniture, furnishings, appliance/equipment store	–	C	–	Maximum FAR of 0.28 in APZ II.
Handcraft industries, small-scale manufacturing	P	P	–	Maximum FAR of 0.28 APZ I; Maximum FAR of 0.56 in APZ II.
Kennel, animal boarding	P	P	–	Maximum FAR of 0.11 APZ I; Maximum FAR of 0.22 in APZ II.
Laundry, dry cleaning plant	P	–	–	Maximum FAR of 0.22 in APZ II.
Live/work and work/live units	P	P	–	N/A
Maintenance service, client site services	P	P	–	Maximum FAR of 0.22 in APZ II.

Land Use Categories	APZ-I	APZ-II	CZ	Density
Military installations	P	P	P	N/A
Mobile home, RV, and boat sales	C	C	–	Maximum FAR of 0.14 in APZ I and 0.28 in APZ II.
Office, business services	P	P	–	Maximum FAR of 0.22 in APZ II.
Office, professional	P	–	–	Maximum FAR of 0.22 in APZ II.
Places of assembly	–	–	–	N/A
Personal services	P	–	–	Office uses only. Maximum FAR of 0.11 in APZ II.
Small craft distillery	–	P	–	Maximum FAR 0.56 in APZ II.
Storage, personal storage facility	P	P	–	Maximum FAR of 1.0 in APZ I; 2.0 in APZ II.
Vehicle services, minor maintenance/repair	P	P	–	Maximum FAR of 0.11 APZ I; 0.22 in APZ II.
Vehicle storage	C	C	–	Maximum FAR of 0.28 in APZ I and 0.56 in APZ II.
Warehouse retail	P	–	–	Maximum FAR of 0.16 in APZ II.
Warehouse	P	P	–	Maximum FAR of 1.0 in APZ I; 2.0 in APZ II.
Wholesaling and distribution	P	P	–	Maximum FAR Of 0.28 in APZ I and 0.56 in APZ II.
Wildlife preserve or sanctuary	P	P	–	N/A
Eating and Drinking Establishments				
Bar/tavern	–	–	–	N/A
Brewery, brew pub	–	–	–	N/A
Mobile food vending facility	P	P	–	N/A
Night club	–	–	–	N/A
Restaurant, café, coffee shop, counter ordering	–	–	–	N/A
Restaurant, café, coffee shop, drive-through services	–	–	–	N/A
Restaurant, café, coffee shop, table	–	–	–	N/A

Land Use Categories	APZ-I	APZ-II	CZ	Density
service				
Restaurant, café, coffee shop, outdoor dining	–	–	–	N/A
Restaurant, café, coffee shop, serving alcohol	–	–	–	N/A
Tasting room	–	–	–	N/A
Lodging				
Bed and breakfast guest houses	–	–	–	N/A
Hostels	–	–	–	N/A
Hotels and motels	–	–	–	N/A
Recreational vehicle parks	–	–	–	N/A
Transportation				
Parking facilities (surface)	P	P	–	N/A
Parking facilities (structured)	–	–	–	N/A
Streets with pedestrian and bicycle facilities	P	P	–	N/A
Transit park and ride lots	P	P	–	N/A
Transit shelter	P	P	–	N/A
Utilities				
Above-ground electrical distribution lines, pipes, and support poles, transformers, and related facilities, not including substations	P	P	–	N/A
Underground electrical distribution lines, pipes, and support poles, transformers, and related facilities, not including substations	P	P	P	N/A
Electrical distribution substations	P	P	–	N/A
Electrical transmission lines of 115 kV or less and support poles	P	P	–	N/A
Electric vehicle battery charging stations	P	P	–	N/A
Above-ground natural gas conveyance facilities	–	–	–	N/A
Underground natural gas conveyance facilities	P	P	P	N/A
Potable water conveyance facilities	P	P	–	N/A
Potable water storage facilities	C	P	–	N/A
Storm water collection and conveyance facilities	P	P	P	N/A
Storm water detention/retention facilities	P	P	C	N/A
Telecommunications earth receiving stations (satellite dishes)	P	P	–	N/A

Land Use Categories	APZ-I	APZ-II	CZ	Density
Telecommunications lines, pipes, support poles and related facilities, not including earth receiving stations, personal wireless service, transmission/receiving/relay facilities, or switching facilities	P	P	–	N/A
Telecommunications switching facilities	P	P	–	N/A
Telecommunications transmission/receiving/relay facilities		P	–	N/A
Waste water conveyance facilities	P	P	P	N/A
Wireless communication facilities (WCFs)	P	P	–	N/A
Essential Public Facilities				
Airport (American Lake Seaplane Base)	–	–	–	N/A
Community and technical colleges, colleges and universities	–	–	–	N/A
Correctional facilities	–	–	–	N/A
Electrical transmission lines of higher voltage than 115 kV, in existing corridors of such transmission lines	–	C	–	N/A
Electrical transmission lines of higher voltage than 115 kV, in new corridors	–	–	–	N/A
Group home	–	–	–	N/A
In-patient facility including but not limited to substance abuse facility	–	C	–	N/A
Intercity high-speed ground transportation	–	–		N/A
Intercity passenger rail service	–	–	–	N/A
Interstate Highway 5 (I-5)	P	–	–	N/A
Mental health facility	–	–	–	N/A
Military installation	P	P	P	N/A
Minimum security institution	–	–	–	N/A
Secure community transition facility (SCTFs)	–	–	–	N/A
Solid waste transfer station	–	–	–	N/A
Sound Transit facility	–	–	–	N/A
Sound Transit railroad right-of-way	–	–	–	N/A
Transit bus, train, or other high capacity vehicle bases	–	–	–	N/A
Washington State Highway 512	P	–	–	N/A
Work/training release facility	–	–	–	N/A

Adult Family Homes in Air Corridor 1 or Air Corridor 2 Land Use Zones

RCW 70.128.130 (2) states that “The [adult family home] provider shall promote the health, safety, and well-being of each resident residing in each licensed adult family home.”

RCW 70.128.140 reinforces the fact that adult family homes must meet local zoning codes:

Compliance with local codes and state and local fire safety regulations.

(1) Each adult family home shall meet applicable local licensing, zoning, building, and housing codes, and state and local fire safety regulations as they pertain to a single-family residence. It is the responsibility of the home to check with local authorities to ensure all local codes are met.

(2) An adult family home must be considered a residential use of property for zoning and public and private utility rate purposes. Adult family homes are a permitted use in all areas zoned for residential or commercial purposes, including areas zoned for single-family dwellings.

The risk to human safety is the foundation for military accident potential zones and the limitation on land uses and persons per acre within them. Adult Family Home providers are the caretakers of some of the community’s most vulnerable, and state law explicitly requires that providers meet zoning and housing codes. There is no reason why a provider should want to establish an adult family home in a military accident potential; to do so violates the plain language of RCW 70.128.130 (2).

State law also holds that “Adult family homes are a permitted use **in all areas zoned for residential or commercial purposes.**” (Emphasis in bold added.) In LMC 18A.40.130 (included in part in the table above), Lakewood has historically and currently **prohibited** virtually all residential uses, **prohibited** all special needs housing and group homes, and significantly limited commercial uses in the AC1 and AC2 land use zones. Type 1 group homes include adult family homes per LMC 18A.10.180. Any commercial uses that are allowed must meet specific floor area ratio requirements.

Due to the unique safety concerns flowing from military operations, as well as compliance with state law and multicounty planning policy regarding military compatibility, the City of Lakewood will continue to prohibit adult family homes within the AC1 and AC2 zones. As a result, no action is recommended by the City.

September 13, 2021

Lakewood Planning Commission
6000 Main St. SW, Lakewood WA 98499

I am writing to you as the exclusive representative of adult family home operators in the state of Washington. Specifically, I write on behalf of our member located at 3114 91ST St S, Lakewood, WA 98499.

This home has requested that the city provide a building inspection so that the home can submit an adult family home application to Washington State's Department of Social and Health Services. The city has refused to provide this inspection and further told the property owner that she could not have an adult family home license in this area.

We have been informed that there is a prohibition on adult family homes in the AC2 zoning area. I am concerned that this prohibition is not legal under state and federal law. Zone AC2 includes residential homes. [RCW 70.128.140](#) states in part "Adult family homes are a permitted use in all areas zoned for residential or commercial purposes, including areas zoned for single-family dwellings." This is not new residential development, but rather the use of existing residential property. This would qualify as legal non-conforming use of the property. Currently there are at least 5 adult family homes within the AC2 zone.

We believe the city is attempting to differentiate between the use of this property as residential and the use of this property as an adult family home. In law an adult family home must be considered the residential use of property. Any attempt to differentiate creates a discriminatory housing practice. As adult family homes serve the elderly and disabled, any limitation on the rights of property to be used for this purpose would conflict with multiple state and federal statutes. I would point you to legal cases such as the [United States Vs Springfield II](#) or to the dismal of [Lakewood's ordinance in Superior Court](#).

The homeowners purchased the property after the development of the AC2 zone, yet no disclosure of city policy or limitations were provided at that time. No communication was provided to the other adult family homes in the AC2 zone. Many of those homes may intend to eventually transfer the home operations to another family. Other residential properties could be purchased in the zone. The development of an adult family home typically does not involve the local jurisdiction until a building inspection of local business license is required. The failure to provide notification to these homes unfairly infringes on the rights of the property owner. In the case of the property in question significant investment have been made to bring the house up to requirements for adult family home licensure.

In short, we believe the city lacks the authority to determine where an adult family home can be located and failed to provide meaningful disclosure to the property owners impacted. Our ask is that the city modifies its restrictions on adult family homes in the AC2 zone, recognizing and allowing adult family homes to use any residential property. Additionally, the city should without delay, perform the WABO inspection for the property as requested. If the city has concerns with the issuance of a license in that zone, the city will need to raise the issue with state officials to determine if there was an allowable, legal path forward to do so. Any significant delay will cause financial hardship to the homeowner and limit a needed resource in the area.

Please feel free to contact me with any questions or to discuss further.

Sincerely,

A handwritten signature in black ink that reads "John Ficker". The signature is written in a cursive style with a large, sweeping "J" and a long horizontal line extending from the end of the name.

John Ficker
Executive Director

To Whom It May Concern:

Hello, my name is Mun Jung Park. Our family is a pastor's family in which we have my husband, who is serving as a pastor of a small Korean church, myself, my 2 daughters and my son. I immigrated from Korea in 2003 and settled in Seattle. We've experienced many difficulties living in a new country in which we knew no one, but I have been living hard and passionately with the help of God's grace and many people and the state government.

As I started caring for the disabled in 2010, I learned how valuable and rewarding it is to devote and work for those who are in need and marginalized. I've been taking care of the elderly in AFH since 2015, and I've been happily knowing them for 7 years now. I work with the heart and sincerity of serving them like my own parents, in hopes that they are recognized in a country in which language barriers and culture differences may occur. I sometimes meet the unfortunate situations of sending many elderly people to heaven, but I know this job is a job that I can make good use of my talent God has given me. AFH is the minimum unit of care that can help the elderly who are struggling and disabled in a family-like atmosphere to end their old age in peace.

Some elderly people have dementia, Parkinson's disease, or has a stroke, making it difficult to keep their bodies in shape. It's a hard reality that families often cannot handle, but it's more touching and rewarding than anything else to me, to be able to take care of them. In fact, the families of the patients I take care of always show their appreciation and grace for what I do to help them. Based on this trust and experience, I thought it was my ministry to take good care of the elderly and put them in God's arms.

I had gone through all of my education of AFH, and even bought all the certificates and proper real estate to open AFH. I spent a tremendous amount of money and time remodeling, and the Lakewood City told me that I couldn't open my AFH. I felt that all my expectations, efforts, and hopes have crumbled.

The area where I purchased the property is a residential area and I asked all my neighbors, but no one knew about AC2 zone. If the city wanted to limit AFH, I think it should have notified or informed DSHS in charge of it. It's also very absurd for me, because I had no way of knowing at all in the process of purchasing real estate. If this problem isn't resolved, we'll go bankrupt.

Of course, it can be handled with AFH University's general home, but AFH is still well known, but it can be opened at regular residential homes as prescribed in the interview. I didn't commit illegal acts and tried to live as devotedly as possible to this society. I think more AFHs should be opened to ensure that AFH will be a peaceful haven for the elderly in need. Through this, I want to help and look after the marginalized neighbors and families.

Through World Vision, we sponsor six children in need every month, but we want to sponsor more and devote ourselves to the homeless and orphans out there who need our help. I am hoping that this letter resolves the illegality of depriving my family of our right to live and create an AFH in the city of Lakewood. Please know that we are trying our best to get a building permit now so that we can get out of financial pressure. Thank you for your time and consideration.

Sincerely,
Mun Jung Park



September 13, 2021

To the Members of the City of Lakewood Planning Commission:

I am not a resident of Lakewood, but have a connection to Ms. Mun Jung Park, who is seeking to operate an adult family home on her property located in your city. Thank you for the opportunity to provide the following comment and for your consideration.

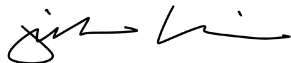
For the past two years, my family has been fortunate enough to have Ms. Park as my mother's primary caregiver at the adult family home she has resided in. Ms. Park has been a key partner in managing my mother's care. She has demonstrated exceptional dedication and compassion in her care. Ms. Park has always treated my mother as she would her own family member and provided sound advice based on her extensive experience in elder care. Even during the height of the pandemic and its extraordinary strains, the standard of care never declined. It was reassuring to know that she was receiving high quality care during such challenging times.

I'm sure the members would agree that the need for high quality long-term care is more urgent than ever. Additionally, as our population becomes more diverse, the availability of culturally sensitive care will become more critical. Our family has accessed various long term care facilities and elder care services for the past ten years. We have found that adult family homes are well suited to provide the kind of culturally sensitive care that is so important for multi-cultural residents, their families, and the broader community.

In addition to the considerations noted above, there are legal implications of not allowing Ms. Park to operate an adult family home on her property. My understanding is that the city amended its zoning code to prohibit new residential uses in the Air Corridor zone as of January 2020. The property was a legally established residential use as of the time of the code amendment and therefore would have become a legal nonconforming use. When Ms. Park's property became a legal nonconforming use, it was vested as to all residential uses, not just certain ones. Since adult family homes are considered residential uses, depriving Ms. Park of an adult family home use would deprive her of a vested property right.

Ms. Park is one of those rare individuals whose calling is to be a caregiver. She has worked tirelessly to support many families and diligently pursued the opportunity to operate her own adult family home. Through no fault of her own her goal has been derailed. I urge you to recommend amending the city's zoning code to allow Ms. Park to provide much needed service.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jina Kim', with a stylized flourish at the end.

Jina Kim

12556 Kallgren Rd NE

Bainbridge Island, WA 98110