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MEMORANDUM

To: Kurt Triplett, City Manager

From: David Godfrey, P.E., Transportation Engineering Manager
Pam Bissonnette, Interim Public Works Director

Date: December 19, 2013

Subject: Transportation Master Plan Update

RECOMMENDATION:

It is recommended that City Council receives a briefing and gives direction on the Transportation Master Plan. Specifically, staff is seeking comment on draft goals and policies. Each draft goal on pages 4-9 has discussion points to assist in formulating comments and direction to staff.

BACKGROUND DISCUSSION:

This memo outlines the purpose of the Transportation Master Plan (TMP), provides background on the existing Transportation Element of the Comprehensive Plan, presents discussion points for the draft Goals and Policies, and describes the progress on various portions of the Master Plan.

As the Transportation Commission worked through revising the concurrency process in preparation for the Council study session in November 2012, it was realized that a 20 year project list based on clear priorities was a missing component critical to the concurrency method. Also, goals were not identifiable for all project types. Since a Comprehensive Plan Update (Kirkland 2035) that includes updating the transportation element was planned, Council approved the recommendation of the Transportation Commission that a TMP would be the appropriate vehicle to both revise the Comprehensive Plan and incorporate other features. In the 2013 budget process, $200,000 was allocated for consultant services to create a Transportation Master Plan.

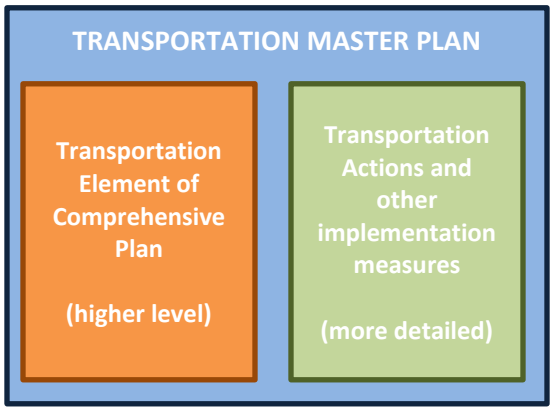


Figure 1 The Transportation Master Plan has two main components

Kirkland's TMP will serve two major purposes (Figure 1). Its goals and policies will provide the basis of the Transportation Element of the Comprehensive Plan. Action items, priorities and other information will also be provided to complete the TMP and form a fuller picture of how the goals and policies are to be implemented than would be covered in a Transportation Element by itself. Development of the plan is being guided by the Transportation Commission with extensive public input through the City's overall Comprehensive Plan public involvement process.

Public involvement

Public involvement began with the first Community Planning Day and has continued through all the 2035 events and outlets including the internet website and Ideas Forum. Stakeholder interviews were conducted in August with neighborhood and business representatives. At the October 19th planning day participants were asked to answer several questions, and their responses were used to influence the goals and policies. Figure 2 illustrates one question that was asked about traffic congestion during outreach activities.

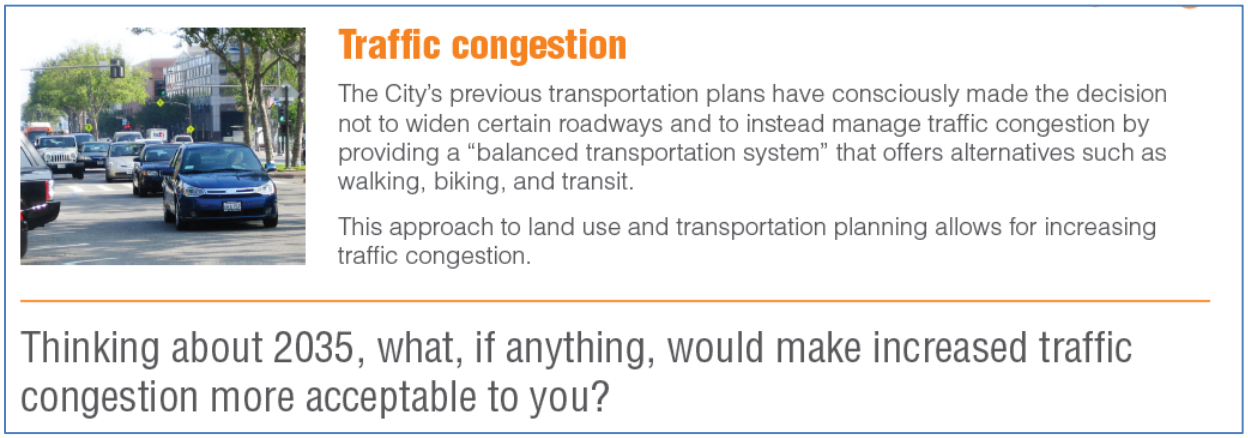


Figure 2 Congestion question from October 19 Planning Day

Several choices were given including:

- Easier connections by foot and bike
- More transit
- Congestion is not acceptable, change the approach
- More density will make shorter trips more feasible
- Better connections to the region, freeway, high capacity transit, etc.
- Improved technology or other innovations and trends will mitigate congestion's impacts

Results for this question are summarized in Figure 3 on page 3.

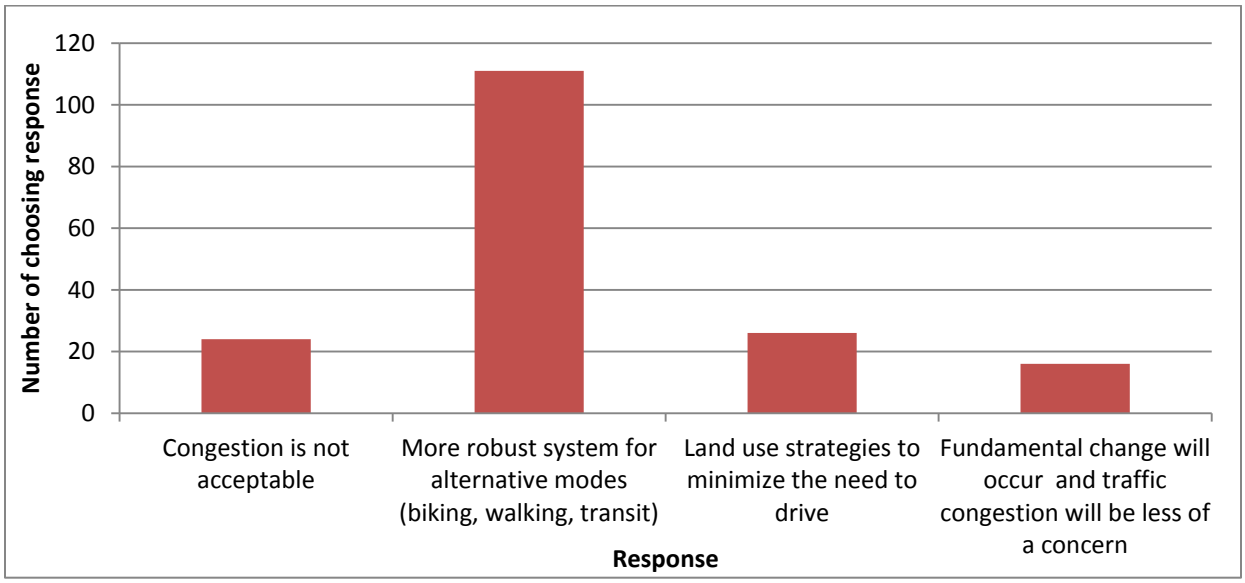
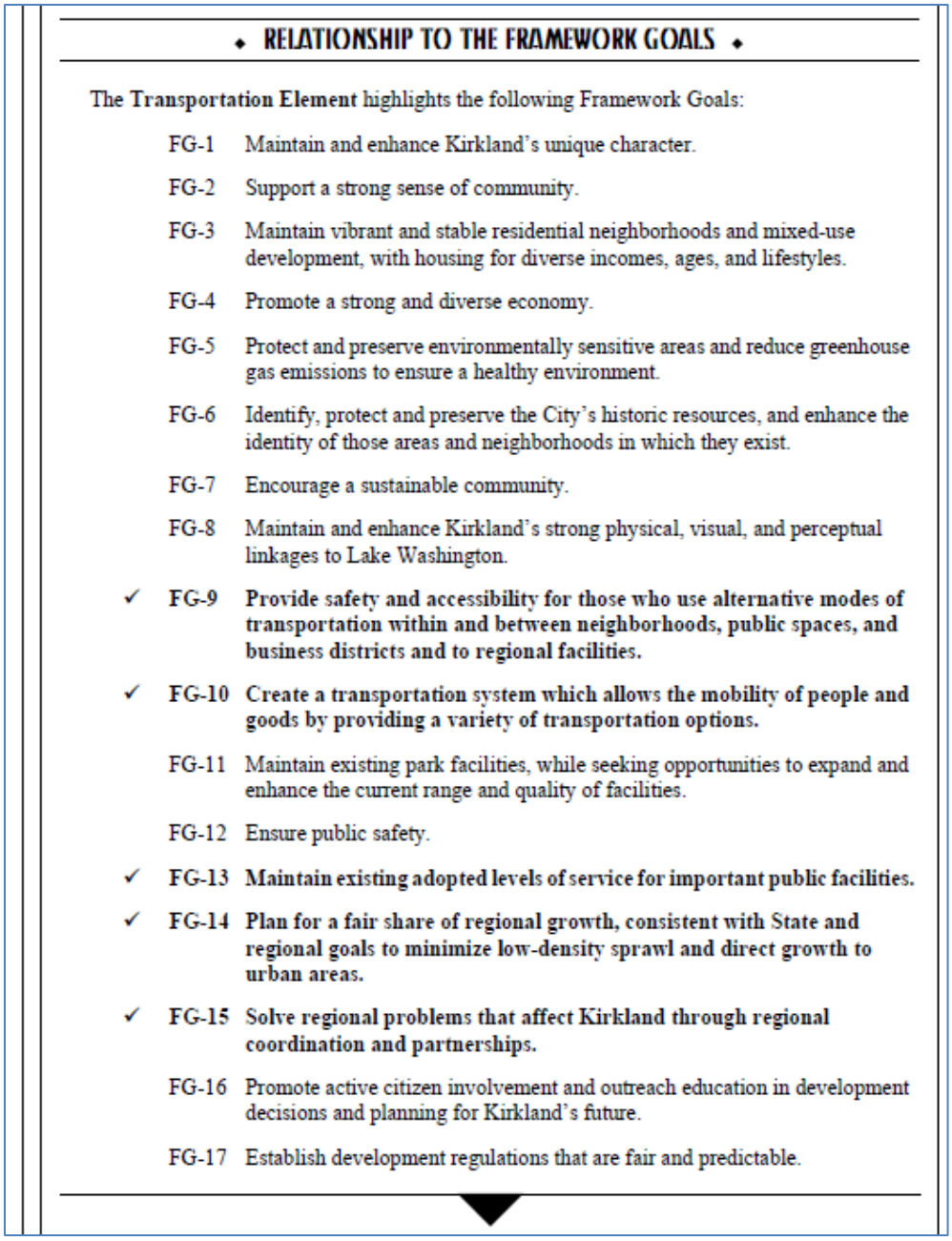


Figure 3 Responses to question about congestion

Public involvement will continue on the TMP, particularly around selection of the project list.

Transportation Element Basics

The Transportation Element is a chapter in the Comprehensive Plan that describes the overarching goals and policies for the City's Transportation Plan and is included here as Attachment 1. Seventeen Framework Goals (Figure 4) form the basis for the Comprehensive Plan. Five of these goals (checked in Figure 4) are the foundation of the Transportation Element. Based on these Framework Goals, there are eight Transportation Goals, (Figure 5) each of which has policies associated with it.



◆ RELATIONSHIP TO THE FRAMEWORK GOALS ◆

The **Transportation Element** highlights the following Framework Goals:

	FG-1	Maintain and enhance Kirkland's unique character.
	FG-2	Support a strong sense of community.
	FG-3	Maintain vibrant and stable residential neighborhoods and mixed-use development, with housing for diverse incomes, ages, and lifestyles.
	FG-4	Promote a strong and diverse economy.
	FG-5	Protect and preserve environmentally sensitive areas and reduce greenhouse gas emissions to ensure a healthy environment.
	FG-6	Identify, protect and preserve the City's historic resources, and enhance the identity of those areas and neighborhoods in which they exist.
	FG-7	Encourage a sustainable community.
	FG-8	Maintain and enhance Kirkland's strong physical, visual, and perceptual linkages to Lake Washington.
✓	**FG-9**	**Provide safety and accessibility for those who use alternative modes of transportation within and between neighborhoods, public spaces, and business districts and to regional facilities.**
✓	**FG-10**	**Create a transportation system which allows the mobility of people and goods by providing a variety of transportation options.**
	FG-11	Maintain existing park facilities, while seeking opportunities to expand and enhance the current range and quality of facilities.
	FG-12	Ensure public safety.
✓	**FG-13**	**Maintain existing adopted levels of service for important public facilities.**
✓	**FG-14**	**Plan for a fair share of regional growth, consistent with State and regional goals to minimize low-density sprawl and direct growth to urban areas.**
✓	**FG-15**	**Solve regional problems that affect Kirkland through regional coordination and partnerships.**
	FG-16	Promote active citizen involvement and outreach education in development decisions and planning for Kirkland's future.
	FG-17	Establish development regulations that are fair and predictable.

Figure 4 Framework Goals from the Existing Comprehensive Plan

Goal T-1: Establish a transportation system that supports Kirkland's land use plan.

Goal T-2: Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

Goal T-3: Work to establish and promote a transit and ridesharing system that provides viable alternatives to the single-occupant vehicle.

Goal T-4: Establish and maintain a roadway network which will efficiently and safely provide for vehicular circulation.

Goal T-5: Establish level of service standards that encourage development of a multimodal transportation system.

Goal T-6: Design transportation facilities that reflect neighborhood character.

Goal T-7: Balance overall public capital expenditures and revenues for transportation.

Goal T-8: Actively work to identify, review, and resolve interjurisdictional transportation concerns affecting Kirkland.

Figure 5 Goals from the existing Transportation Element

The Growth Management Act requires that a Comprehensive Plan Transportation Element have certain components and characteristics including:

- A Goals and Policies framework
- Inventory of existing conditions
- Travel Demand forecasts to align with Land Use Assumptions
- Level of Service Standards
- Facility plans and recommendations aligned with Level of Service objectives
- Walking and bicycling features
- Proposed projects that can be reasonably funded with expected revenues through a multi-year Financing Plan
- Transportation Demand management features
- Demonstrated coordination with other governments

Concurrency

Policy T-5.7 (Figure 6) is the existing Comprehensive Plan language that describes the need for a concurrency policy. The details of the policy are not covered in the Transportation Element, nor does it directly treat concurrency. The Transportation Actions and Implementation component of the TMP will describe the new concurrency method and how it will be implemented. This proposed concurrency method was laid out for Council at a study session in November of 2012. Attachment 2 is a memo from that meeting that provides more background on the proposed concurrency system. It also describes needs in the area of project prioritization.

Policy T-5.7: Assure that transportation improvements are concurrent with development to maintain the vehicular level of service standard for the development's subarea.

The Growth Management Act requires that transportation improvements and programs needed to accommodate planned growth be provided concurrently as new development occurs. Concurrency requires the balancing of three primary factors: available financial resources, acceptable transportation system performance conditions (level of service), and the community's long-range vision for land use and transportation.

Figure 6 Existing Transportation Element language referencing concurrency

As noted in the existing policy, (Figure 6) concurrency is in place to help balance the rate at which land use is developed and transportation facilities are constructed. Our current system measures only performance at signalized intersections to determine this balance. The proposed system would consider the

complete 20 year set of projects across modes and relate progress on development of this system to the number of new trips that are permitted.

Because a 20 year project list is necessary to complete the framework for the new system, this will likely come toward the end of the TMP development.

Goals and Policies

The Transportation Element of the Comprehensive Plan is built on Goals and Policies (See sample page format in Figure 8 on page 7). Revised draft goals and policies have been prepared and reviewed with the Transportation Commission. These draft materials are presented in detail in Attachment 3. The goals follow the four principles identified in *Transportation Conversations* [1] (see Attachment 4):

- Move People
- Link to Land Use
- Be Sustainable
- Be an Active Partner

Goals and policies are built to support the plan vision. The community has been engaged over the past few months and continues to develop a vision for the Comprehensive Plan. A Wordle based on comments from 687 people who attended 18 visioning exercises provides insight to the community's ideas for Comprehensive Plan direction and is shown below in Figure 7. Some of the most popular words used to describe Kirkland's future are: Walkable, Livable, Green, Accessible, and Connected. All have direct application to the design and operation of a transportation system.

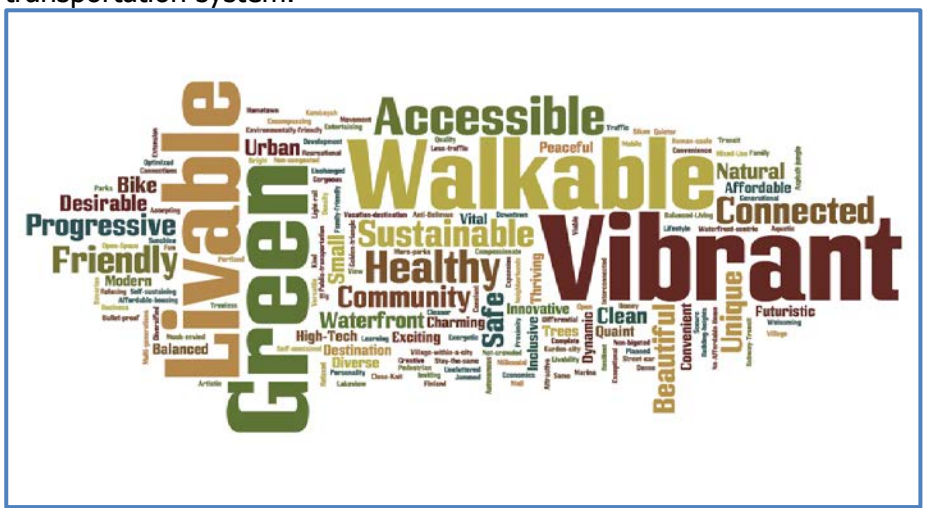


Figure 7 A Wordle based on Community Visioning exercises held in fall of 2013. Size of words is proportioned to their relative popularity.

[1] *Transportation Conversations* (link) was endorsed by the City Council in June 2010. It is a document that was developed by the Transportation Commission to help organize Kirkland's Transportation Policy. It recognized several issues that needed further work including Concurrency policy, funding and priorities for capital projects and issues around pollution, climate change and health. *Transportation Conversations* established four principles that should guide transportation policy: Move People, Be Sustainable, Be an Active Partner and Link to Land Use.

IX. Transportation

Goal T-2: Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

Policy T-2.1: Promote pedestrian and bicycle networks that safely access commercial areas, schools, transit routes, parks, and other destinations within Kirkland and connect to adjacent communities, regional destinations, and routes.

Crosswalk in Downtown

Safety and convenient access are important considerations when prioritizing nonmotorized projects. Currently, there are places in Kirkland that are unsafe or difficult to access by foot or bicycle. Similarly, there are incomplete regional connections in our existing nonmotorized system.

Policy T-2.2: Promote a comprehensive and interconnected network of pedestrian and bike routes within neighborhoods.

Cul-de-sacs and dead-end roads are a common cause of incomplete pedestrian and bicycle networks. Direct and convenient nonmotorized connections on foot or by bicycle between cul-de-sac bulbs to nearby destinations should be a priority when planning the nonmotorized system.

Beyond these connections, however, the City must work to create an overall nonmotorized system that gives people a convenient alternative to driving and an opportunity for physical activity.

Policy T-2.3: Increase the safety of the nonmotorized transportation system by removing hazards and obstructions and through proper design, construction, and maintenance, including retrofitting of existing facilities where needed.

Safety considerations should be paramount when planning pedestrian and bicycle routes.

Policy T-2.4: Design streets with features that encourage walking and bicycling.

To promote the nonmotorized system and alternative modes to the single-occupant vehicle, streets should include pedestrian and bicycle facilities. Consistent with the City's Complete Streets policies, bicycle and pedestrian ways should be accommodated in the planning, development and construction of transportation facilities.

Policy T-2.5: Maintain a detailed Active Transportation Plan (ATP).

The ATP is a functional plan that provides a detailed examination of the existing pedestrian, bicycle, and equestrian systems, criteria for prioritizing improvement, and suggested improvements. The ATP designates specific City rights-of-way and corridors for improved pedestrian, bicycle and equestrian circulation, and sets design standards for nonmotorized facilities.

The Transportation Element lays the fundamental policy basis for the ATP.

The current ATP is consistent with the general policy direction of the Transportation Element. The ATP will need to be updated regularly to incorporate new and revised standards for facilities and to reprioritize routes to be built.

Figure 8 Sample page from Existing Comprehensive Plan.

The goals from the Draft Goals and Policies (Attachment 3) that were developed with the Transportation Commission and public input to date are listed below with their associated policies and discussion items that are fundamental to the handling of that goal. Staff is seeking review, discussion and input from Council on these draft goals and policies.

> **Draft Goal 1.1** ***Walking*** *- Form a safe network of sidewalks, trails and crosswalks where walking is comfortable and the first choice for many trips.*

Draft Policies

1. Measure and improve the safety of walking in Kirkland.
2. Prioritize sidewalk construction in a manner that supports other goals in the Plan.
3. Develop world-class walking facilities along the Cross Kirkland Corridor (CKC) and the shore of Lake Washington with ample connections to the rest of Kirkland.
4. Identify and remove barriers to walking.
5. Make it safer and easier to walk to school.
6. Improve street crossings.
7. Focus on regional transportation as a key destination for walking.

Discussion points for Council

a. Is walking the highest priority for transportation, and if so, what are the implications for funding priorities and how right-of-way is used?
b. Should the lakeshore and the CKC be developed as special walking facilities and how critical is the connection of these places to the rest of the city?

Similar Goal from Existing Plan

Goal T-2. Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

> **Draft Goal 1.2** ***Biking*** *– Interconnect bicycle facilities that are safe, nearby, easy to use and popular for people of all ages and abilities.*

Draft Policies

1. Create and improve on-street bike facilities.
2. Build a network of greenways.
3. Support facilities that make cycling easier.
4. Make it easy to navigate the bicycle network.
5. Measure bicycle use and safety.
6. Make the CKC an integral part of the bicycle network and connect it to the region.

Discussion point for Council

a. Should a two-tiered system for the bicycle network be created, i.e. should Kirkland complete a network of greenways by making new investments largely in signs, markings and improved crossings of busy streets, but also improve and build on the existing network of on-street bicycle facilities?

Similar Goal from Existing Plan

Goal T-2. Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

Draft Goal 1.3 P*ublic Transportation* - *Support and promote a transit system that is viable and realistic for many trips.*

Draft Policies

1. Create an environment for frequent and reliable service on arterials.
2. Support safe and comfortable passenger facilities.
3. Integrate transit facilities with pedestrian and bicycle networks.
4. Support ridesharing for trips around and through Kirkland.
5. Pursue transit on the CKC.
6. Partner with transit providers to coordinate land use and transit service (see Goal 4).
7. Work with Sound Transit to incorporate the next phase of their investments in Kirkland.

Discussion points for Council

a. Should Kirkland plan for a Transit network that is focused on high frequency service on fewer major routes as opposed to a more diffuse and less efficient service network?
b. Should Kirkland use land use planning and other investments to create an environment that is transit friendly?
c. Should Kirkland assume that ST 3 will connect to Totem Lake? How should that influence timing of planning for station locations?

Similar Goal from Existing Plan

Goal T-3. Work to establish and promote a transit and ridesharing system that provides viable alternatives to the single-occupant vehicle.

Draft Goal 1.4 Motor Vehicles - *Efficiently and safely provide for vehicular circulation recognizing congestion is present during parts of most days.*

Draft Policies

1. Make limited, strategic investments in intersections and street capacity to support existing and proposed land use.
2. Use Intelligent Transportation Systems (ITS) to support optimization of roadway network operations.
3. Position Kirkland to respond to technological innovations, such as electric vehicles and driverless cars.
4. Take an active approach to managing on-street and off-street parking.
5. Work with WSDOT to improve the way I-405 and SR 520 meet Kirkland's needs. (See Goal 4.)
6. Reduce crash rates for motor vehicles.
7. Mitigate impacts of motor vehicles on neighborhood streets.

Discussion points for Council

a. Should capacity improvements to the street network be limited in relation to its priority?
b. How can the existence of congestion be clearly recognized and communicated?
c. It is planned that parking be treated generally in the plan. Is this sufficient? How does parking support other plan goals?

Similar Goals from Existing Plan

Goal T-5 Establish and maintain a roadway network which will efficiently and safely provide for vehicular circulation.

Goal T-6 Design transportation facilities that reflect neighborhood character.

Draft Goal 2 Link to Land U*se -* *Create a transportation system that is united with Kirkland's land use plan.*

Draft Policies

1. Create a transportation network that supports economic development goals.
2. Develop transportation improvements tailored to commercial land use districts such as Totem Lake, Downtown and neighborhood business areas.
3. Focus transportation system developments around schools and transit routes.
4. Adopt requirements and practices for all future development that support planned transportation infrastructure.

Discussion point for Council

a. Are the land use changes, based on the vision, with the resulting increases in housing, employment, and auto congestion appropriately supported by the TMP?

Similar Goal from Existing Plan
Goal T-1 Establish a transportation system that supports Kirkland's land use plan

Draft Goal 3 Be Sustainable – *As the transportation system is planned, built and maintained, provide mobility for all using reasonably assured revenue sources while minimizing environmental impacts.*

Draft Policies

1. Balance overall public capital expenditures and revenues for transportation.
2. Ensure that the transportation network can be developed, maintained, and operated within expected revenues for the foreseeable future.
3. Place highest priority for funding on reasonable maintenance of existing infrastructure rather than construction of new facilities.
4. Identify and perform needed maintenance to maximize the useful lifetime of the transportation network at optimum lifecycle cost.
5. Minimize the contribution of transportation to air and water pollution.
6. Create an equitable system that provides mobility for all users.
7. Actively pursue grant funding and innovative funding sources.

Discussion points for Council

a. Should a project list be limited to match expected funding, i.e. limit unfunded projects?
b. Should maintenance of existing infrastructure be prioritized over new facilities?

Similar Goal from Existing Plan
Goal T-7 Balance overall public capital expenditures and revenues for transportation.

Draft Goal 4 Be an Active Partner - *Coordinate with a broad range of groups to help meet Kirkland's transportation Goals.*

Draft Policies

1. Play a major role in the development of Sound Transit facilities in Kirkland.
2. Establish commitments from transit providers for high quality transit service in exchange for providing density and transportation improvements.
3. Work with WSDOT to achieve mutually beneficial decisions on freeway interchanges and other facilities.
4. Participate in and provide leadership for regional transportation decision making.
5. Work closely with the Lake Washington School District to get more children using active transportation to travel to school.

Discussion points for Council

a. Should Kirkland pursue commitments for transit service from providers in exchange for implementing transit supportive policies?
b. Should consideration be given to a wide range of partners?

Similar Goal from Existing Plan

Goal T-8 Actively work to identify, review and resolve inter-jurisdictional transportation concerns affecting Kirkland.

Draft Goal 5 Transportation Measurement - *Measure and report on progress toward achieving goals and actions.*

Draft Policies

1. Establish a plan-based multi-modal concurrency method.
2. Develop an action plan for implementation.
3. Deliver annual transportation report cards.

Discussion point for Council

a. Should a plan-based multi-modal concurrency system as described in Attachment 2 be prepared?

Similar Goal from Existing Plan

Goal T-5 Establish level of service standards that encourage development of a multimodal transportation system.

Actions

As described above, the TMP goes beyond a policy level to include actions that are too detailed to include in the Comprehensive Plan. These will be assembled after we have solidified the Goals and Policies. For example, a policy under the bicycling goal could be to support facilities that make cycling easier. Actions under this policy might include specific actions around bike share, better bicycle parking, wayfinding etc. Figure 9 shows the full structure from vision to action items.

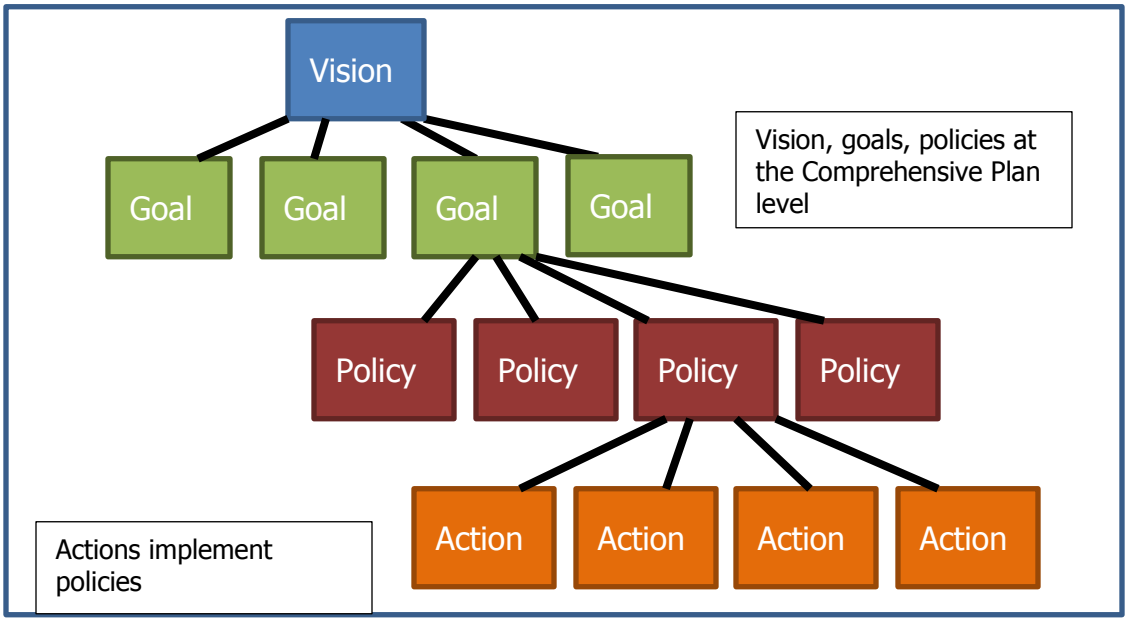


Figure 9 Structure of Vision goals, policies and actions that show the progression from establishing Vision to determining Action.

Other Items in the TMP

Existing Conditions

An analysis of existing conditions is being prepared by the consultant team. This will include safety, traffic congestion, completeness of bicycle and pedestrian networks and other items. At the time of the writing of this memo, the analysis is still being assembled, and more details will be available at the January 7 study session.

Financial Implications

On December 3, staff met with the consultant team and began initial discussions about financing the plan. A number of existing and potential funding sources were considered as were past and future revenue trends and project funding mechanisms. As development of the project list continues, policy decisions will be required from Council about the types of funding that could be needed in the future. These decisions cannot be made without the context of project selection and project performance when tradeoffs and implications of various alternatives can be understood. Following from the proposed goals, a major theme will be to sustainably fund the TMP.

Developing a Project List

One of the next stages will be shaping the project list. This is envisioned as an interactive and iterative process with the community where goals, priorities, funding, potential projects and performance are all balanced to develop a set of highest priority projects (See Figure 10). This project list is necessary to show how the new concurrency system will work.

For example, tradeoffs may be necessary between completing greenways or making improvements to the sidewalk system, given certain goals for maintenance of traffic signals and in order to stay within reasonably expected revenue sources.

The consultant team is developing an approach for making this a compelling activity at the next Community Planning Day, and ideally also making it available on-line so that it can have the broadest possible audience.

At this point, it is likely that the project list will not include projects that are remarkably different than what has been considered previously. Types of projects may be prioritized differently based on the proposed goals. For instance, there will likely be more emphasis on walking and biking, and less emphasis on intersection projects.

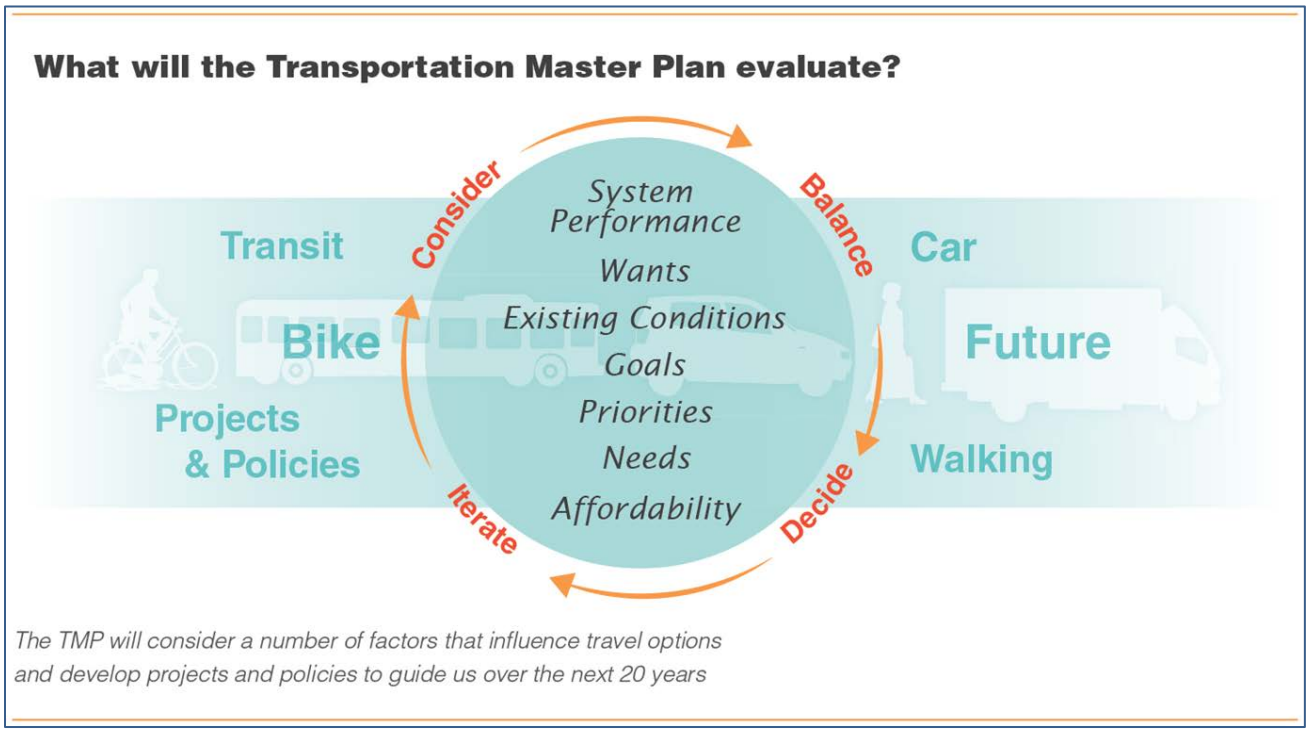


Figure 10 Graphic depicting factors involved in project selection

The Juanita Drive Corridor Study & Other Examples of Projects

A corridor study on Juanita Drive is nearing completion and serves as a good example of the type of projects that could emerge on a revised 20-year project list.

The study goals included safety, accessibility for walking and biking, and preservation of the neighborhood character with less emphasis on vehicle capacity. Resulting projects recommended from the study include ways of providing bike lanes that are buffered from traffic and a complete walkway along the corridor with new and enhanced crosswalks at several locations. Auto improvements are also included but are relatively small and are targeted to add safety for motor vehicles rather than adding additional lanes for long segments to add capacity. For implementation, proposed projects are assembled into packages that together represent coherent themes rather than being individually ranked. The complete set of improvements is estimated to cost $20 million, which is a large amount compared to the $6 million of internal funding that is traditionally available annually for the entire transportation CIP --even if the Juanita Drive Corridor projects were built over a number of years.

To summarize, the Juanita Drive Corridor study is grounded in goals that emphasize walking, bicycling, and safety with preservation of neighborhood character and environment. The resulting projects therefore connect active transportation facilities, supplemented by strategic safety based updates. Packages of projects address desired outcomes and due to costs, implementation may need grant funding and will be achieved over time. These are similar conclusions to what should be expected from a project list built on the proposed goals and objectives in this memo.

The Totem Lake Urban Center is another example where we can look ahead and get a feel for where the transportation network is headed based on the proposed goals and likely land use.

Increased land use density will be supported by a more complete bicycle and pedestrian network and a greater emphasis on transit. Greenways connect the CKC to the hospital area and continue into neighborhoods north of NE 132nd street. Regional high capacity transit will have an important node at Totem Lake with connectivity planned to get people to this location by walking and biking. Despite improved connections, I-405 and NE 124th Street will continue to be barriers to easy walking and biking. Selected street improvements add connectivity to support land use and transit rather than add large amounts of capacity. Increases in density will continue despite traffic congestion, but as other transportation options become more realistic and the land use vision is achieved, Totem Lake will become a more livable, vibrant area.

Partnerships with WSDOT and Sound Transit will be necessary to bring a new interchange to NE 132nd Street and Sound Transit's next phase of improvements (ST 3) to the area.

Functional Plans

Figure 11 shows the relationship of the TMP to other functional plans. One of the policies of the existing Transportation Element is to develop and maintain an Active Transportation Plan. With the additional implementation material in the TMP, the structure of functional plans may change somewhat but they are still necessary to give the most detailed guidance to implementing the Transportation Element goals.

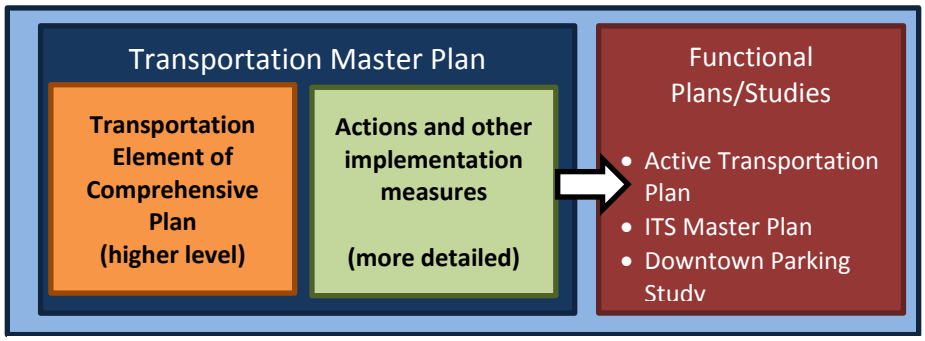


Figure 11 Relationship of Functional Plans to the Transportation Master Plan

Coordination with the other parts of the Comprehensive Plan

In order to fit seamlessly into the Comprehensive Plan, the Transportation Element has to share the overall vision of the plan. Also it relies heavily on the land use section not only because land use determines the number of trips that need to be accommodated, but as described in the Goals and Policies section, in order for either the land use or transportation vision to be realized, they have to be coordinated. Modeling of trips on the network cannot take place until a land use alternative has been determined.

Schedule of TMP Adoption

Because the TMP is an element of the Comprehensive Plan, the schedule for completion of the TMP must be coordinated with the Comprehensive Plan Update. Figure 12 shows a general project schedule for the Transportation Master Plan. Formal adoption of the TMP will take place when the entire Comprehensive Plan is adopted, although the current schedule calls for the TMP to be completed well in advance of the Comprehensive Plan.

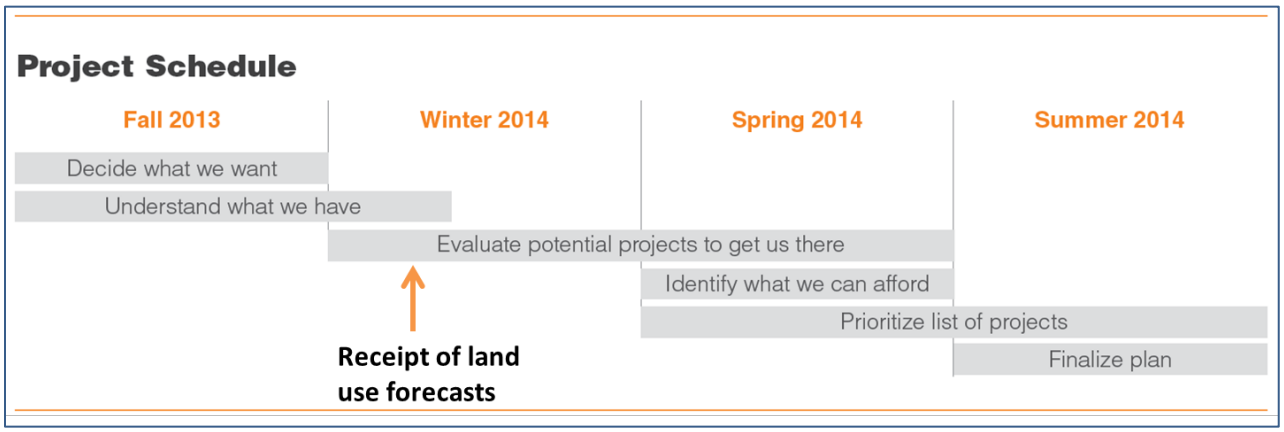


Figure 12. Schematic of Transportation Master Plan Schedule

The next major milestone will be discussion of the project list. The next formal update is scheduled for Council in April, 2014. Shaping the TMP is a major work item for the Transportation Commission in 2014 as well.

The TMP will continue to seek public input on the phases shown in the schedule above throughout the Comprehensive Plan public involvement process up until its adoption.

Questions for Council Feedback

- What is Council's feedback on the draft goals and policies?
- What is the Council's feedback on the discussion points in the goal section on pages 6-11?
- Does Council have any observations on the overall approach to the TMP? In particular, any observations about Council's involvement in the process or the public's involvement in the process?
- Are there any technical questions that were not answered in the memo?

IX. Transportation

Charting a Future Course

◆ RELATIONSHIP TO THE FRAMEWORK GOALS ◆

The **Transportation Element** highlights the following Framework Goals:

FG-1 Maintain and enhance Kirkland's unique character.

FG-2 Support a strong sense of community.

FG-3 Maintain vibrant and stable residential neighborhoods and mixed-use development, with housing for diverse incomes, ages, and lifestyles.

FG-4 Promote a strong and diverse economy.

FG-5 Protect and preserve environmentally sensitive areas and reduce greenhouse gas emissions to ensure a healthy environment.

FG-6 Identify, protect and preserve the City's historic resources, and enhance the identity of those areas and neighborhoods in which they exist.

FG-7 Encourage a sustainable community.

FG-8 Maintain and enhance Kirkland's strong physical, visual, and perceptual linkages to Lake Washington.

✓ **FG-9 Provide safety and accessibility for those who use alternative modes of transportation within and between neighborhoods, public spaces, and business districts and to regional facilities.**

✓ **FG-10 Create a transportation system which allows the mobility of people and goods by providing a variety of transportation options.**

FG-11 Maintain existing park facilities, while seeking opportunities to expand and enhance the current range and quality of facilities.

FG-12 Ensure public safety.

✓ **FG-13 Maintain existing adopted levels of service for important public facilities.**

✓ **FG-14 Plan for a fair share of regional growth, consistent with State and regional goals to minimize low-density sprawl and direct growth to urban areas.**

✓ **FG-15 Solve regional problems that affect Kirkland through regional coordination and partnerships.**

FG-16 Promote active citizen involvement and outreach education in development decisions and planning for Kirkland's future.

FG-17 Establish development regulations that are fair and predictable.

IX. Transportation

A. Introduction

Problem Statement

By the year 2020, the congested portions of the Puget Sound region's freeway and arterial network are forecast to be far more extensive than they are today and the delays experienced by users will be much longer. Kirkland's transportation system is not isolated, but is integrally connected with a system of federal, State, and County transportation systems and the systems of adjacent jurisdictions. Kirkland experiences peak-hour congestion primarily in its highly commercial areas (Totem Lake, NE 85th Street, and Downtown).

There are many causes of increased congestion including I-405 and SR 520, neither of which is able to handle the volume to which it is subjected. This has resulted in significant congestion on Kirkland streets and is a condition which Kirkland by itself does not control. Annual vehicle miles traveled in the Puget Sound region continue to increase at a rate approximately equal to the rate of the population growth. Access into, through, and out of Kirkland is physically limited because of several significant features such as the lake on the west, Bridle Trails State Park and SR 520 on the south, and I-405 through the middle running north and south. For environmental and financial reasons, and reasons related to maintenance of community character, road building has not kept pace with demand.

Realistic transportation alternatives to driving alone are available for most people. The transit system is largely outside of Kirkland's control; it is defined by King County (Metro) and Sound Transit. Local routes have increased in number and in frequency of service over the past five years. Kirkland's nonmotorized network is also improving though not yet complete.

In the past, roads have been developed predominantly with vehicles in mind; however, the role of roads in influencing community character has become clear over the years. All new major construction may include sidewalks, planter strips and bicycle lanes, consistent with the Active Transportation Plan. Kirkland's neighborhoods have been reluctant to accept major roads or road improvements. Finding the balance between accommodating increased traffic demand and preserving community character will not be easy, and there will be potentially adverse impacts on all segments of the community. Our challenge is to provide a transportation system which will both enhance surrounding neighborhoods and provide effective mobility for people, goods, and services through multiple modes.

Lack of transportation choices also affects the health of our community. Obesity has become an epidemic over the past two decades, increasing the risk of many diseases and health conditions, including heart disease and diabetes. One of the factors contributing to obesity is lack of physical activity. A major source of air pollution in Kirkland is motor vehicle use. By providing safe and convenient bicycle and pedestrian systems that connect to all areas of the City, to neighboring communities, and to regional facilities, we can promote physical activity and improve air quality.

Existing Conditions

The City of Kirkland has established a system of street classification based on intended street function. The purpose of these classifications is to allow appropriate design and maintenance standards to be applied as well as for State and federal funding purposes. Figure T-1 displays the existing street system (except for local access streets) overlain with the street functional classifications. There are four functional classes: principal arterial, minor arterial, collector, and local access. There are 146 miles of streets in Kirkland, the majority of which (74 percent) are local access.

Principal arterials connect Kirkland with other regional locations such as Bellevue and Redmond. Minor arterials provide connections between principal arterials and serve as key circulation routes within Kirkland. Collectors distribute traffic from arterials to local streets. Local access streets give access to individual properties and connect to collectors.

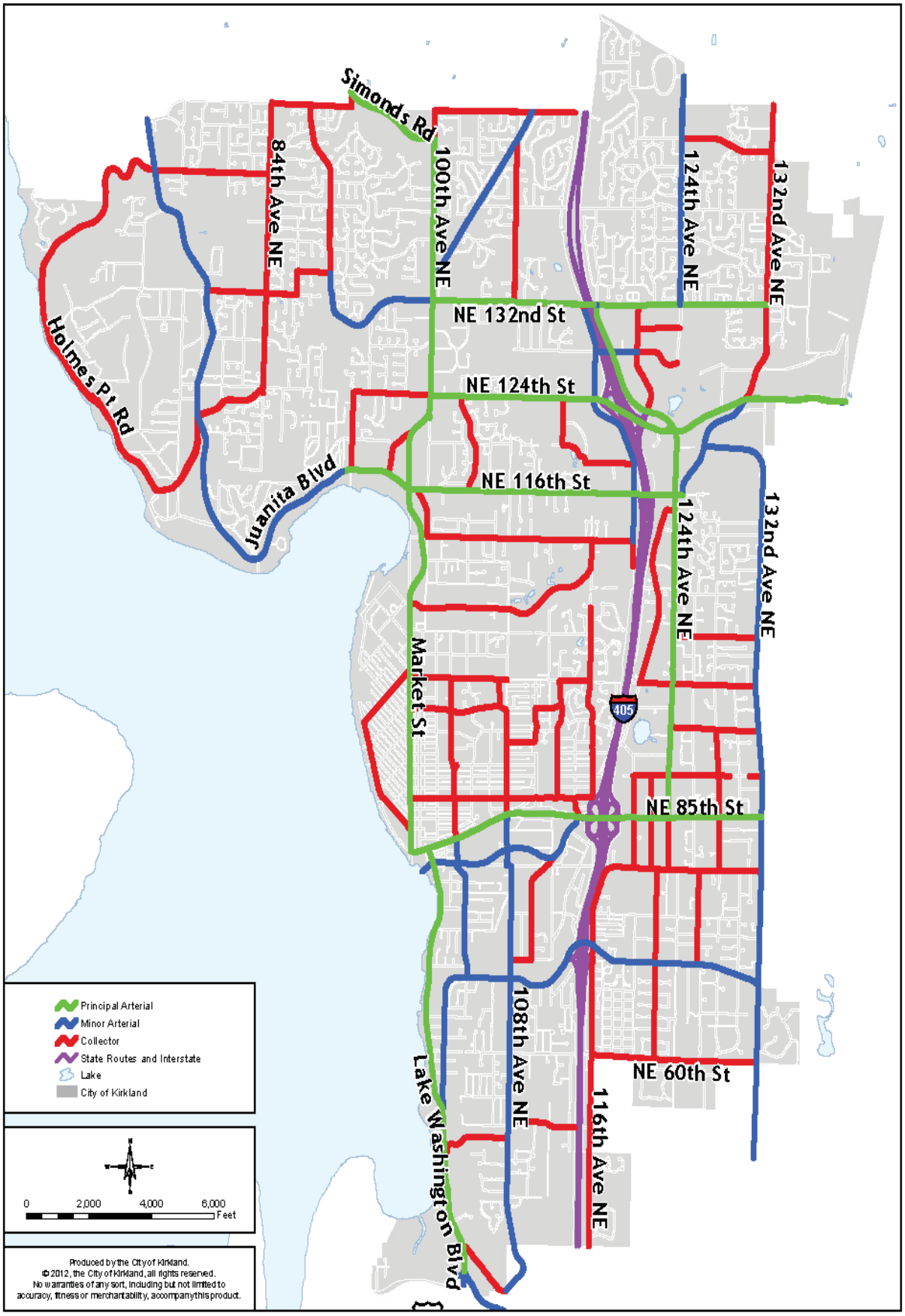


Figure T-1: Street Classifications and State Routes

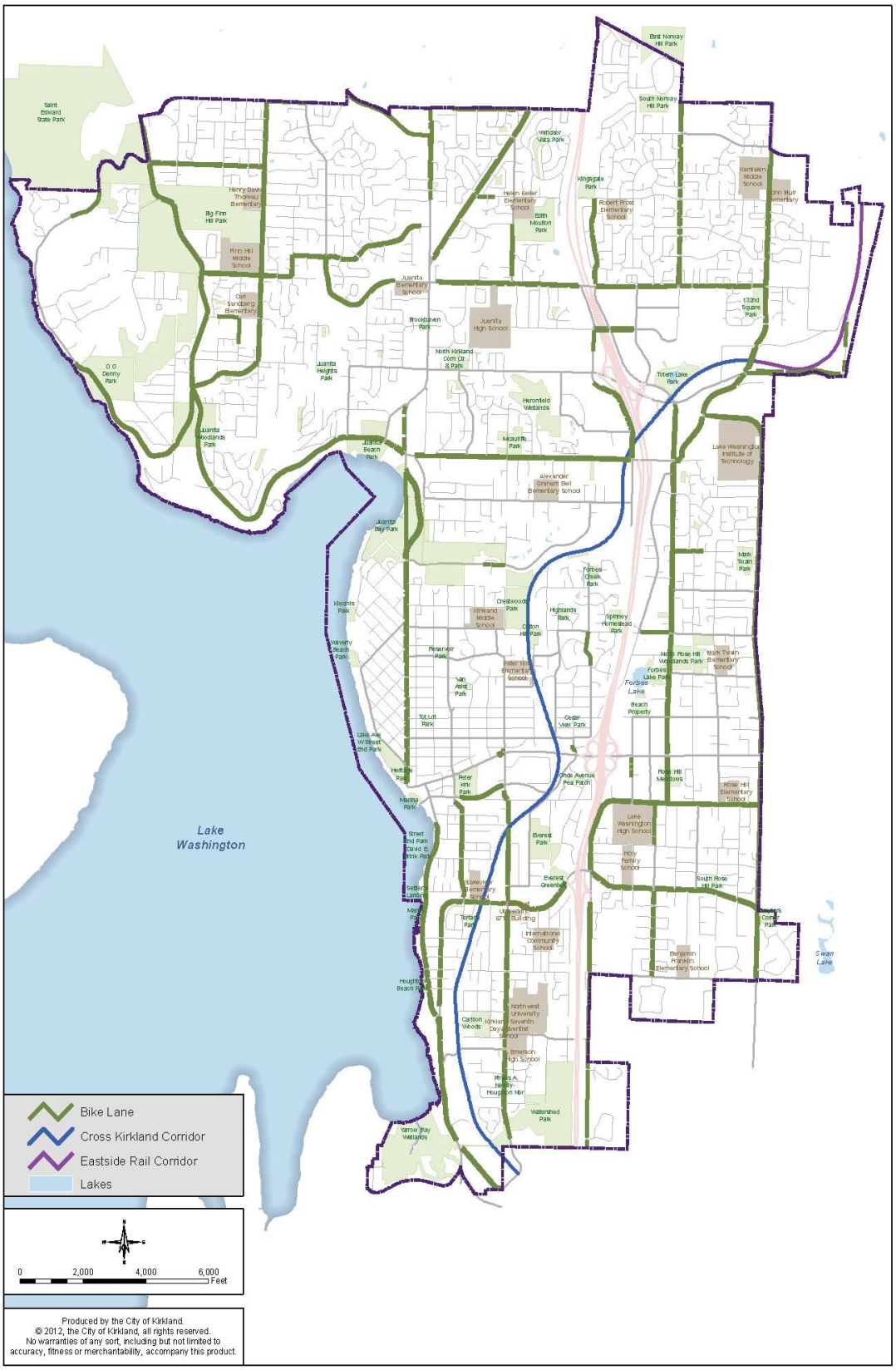


Figure T-2: Bicycle System

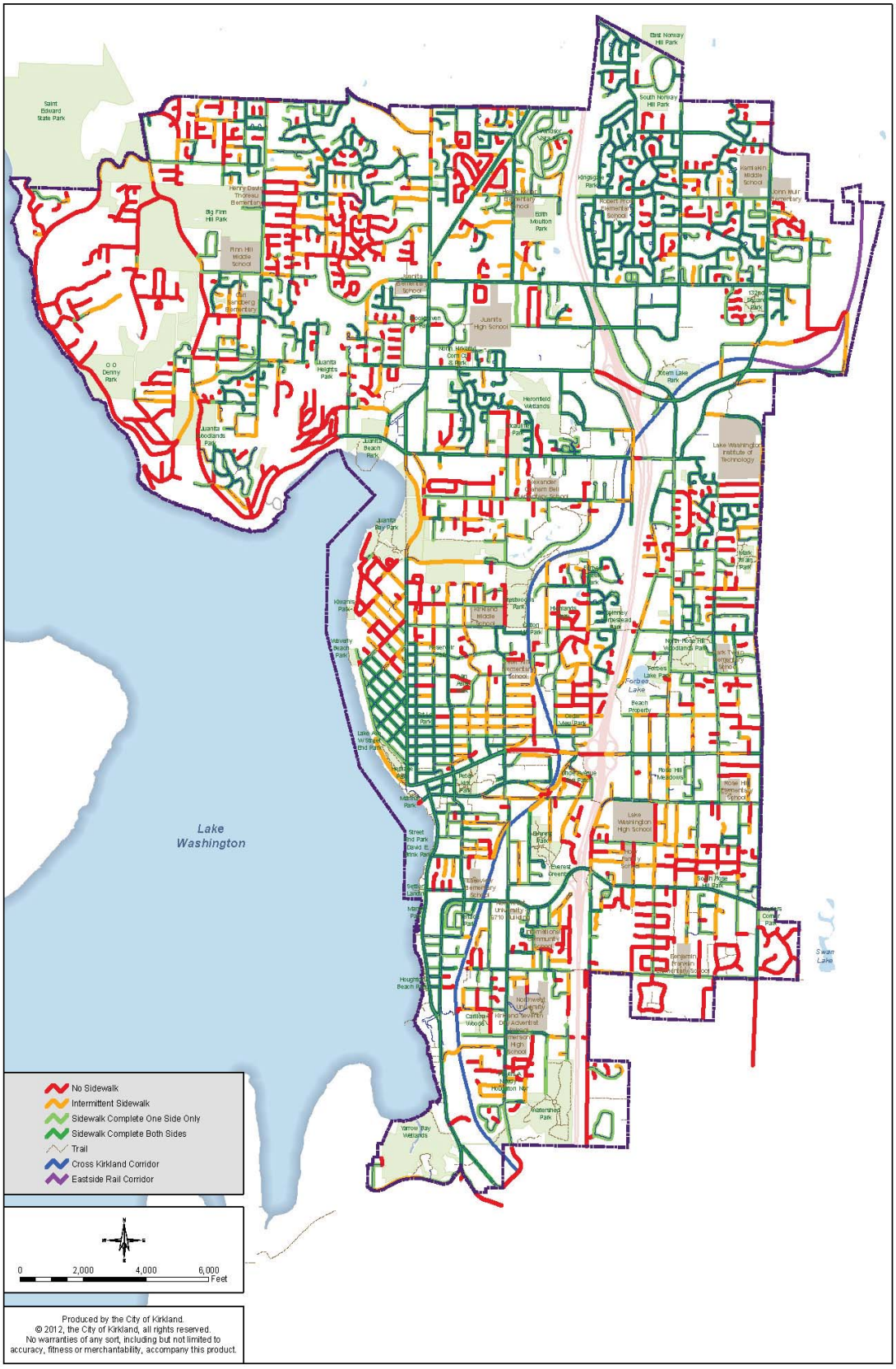


Figure T-3: Pedestrian System

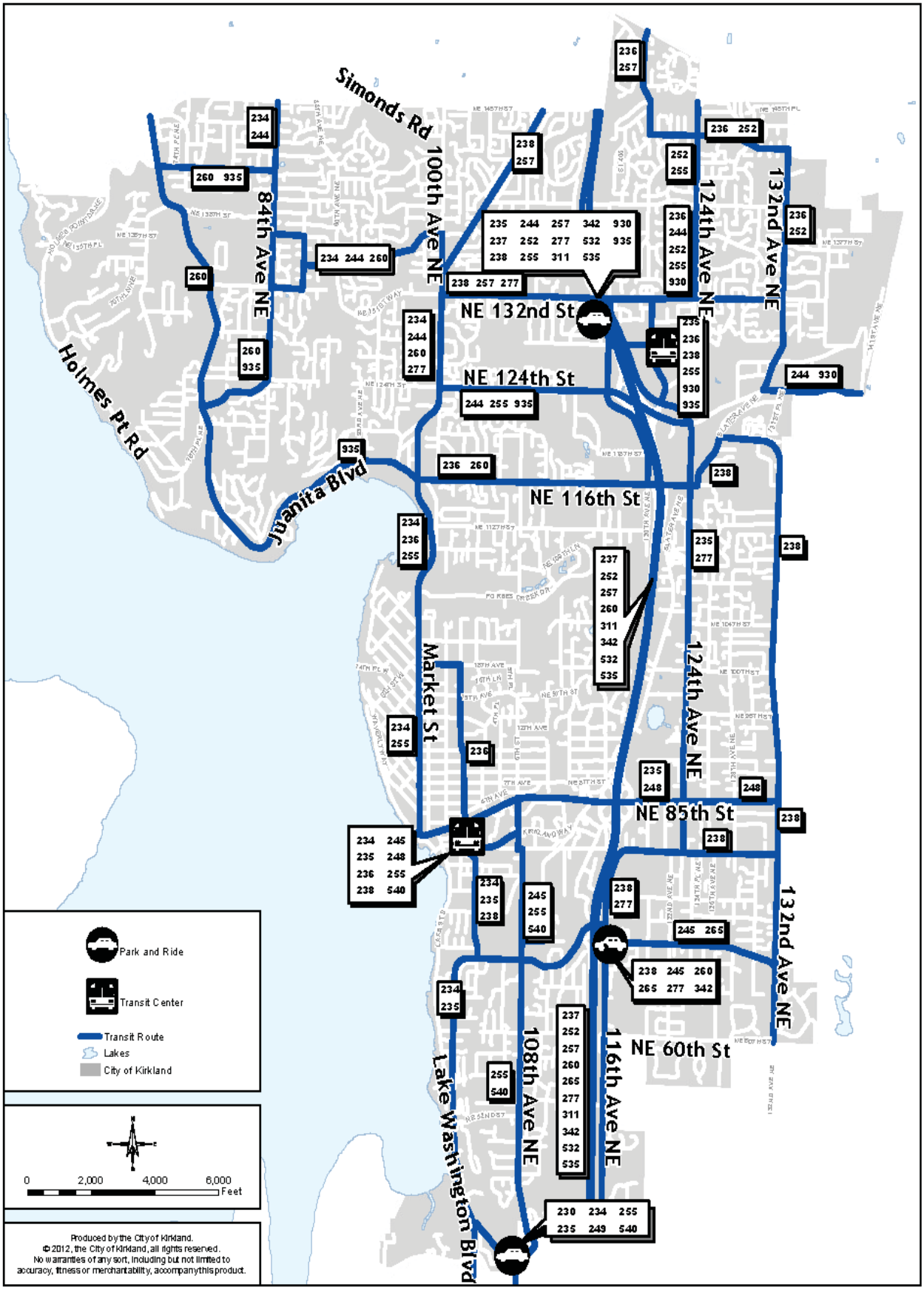


Figure T-4: Transit Service

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Figure T-2 displays existing shared use path and bike lane facilities. There are approximately 50.2 miles of bike lane facilities, which are striped lanes alongside vehicle lanes, and 0.4 miles of shared use paths.

Existing sidewalks are mapped in Figure T-3. The City has an inventory of the condition of sidewalks and a comprehensive sidewalk repair program.

Transit service in Kirkland is provided by Metro and Sound Transit. Figure T-4 and Table T-1 display the routes serving Kirkland. Time between buses on the same route during rush hour spans between 15 and 30 minutes, depending on the route. Non-rush hour frequency is generally about 30 minutes between buses, depending on the route. The Kirkland Transit Center is in the Downtown on 3rd Street by the library. There are eight park and ride lots within the City limits. Of the three largest park and rides, the Houghton facility has the most remaining capacity.

The Cross Kirkland Corridor, formerly the BNSF Railroad right-of-way, runs north-south through Kirkland. The City acquired the right-of-way in 2012 for a nonmotorized multi-use trail and/or transit route through Kirkland. The right-of-way is 100 feet in width in most areas, and travels through many Eastside cities providing critical links to other existing regional trails such as the Sammamish River Trail. The City has improved some sections of the route with trail amenities. Future interjurisdictional planning and implementation is envisioned for this multi-modal facility.

Table T-1: Transit Routes in Kirkland

	All Day Service
230	Kingsgate – Kirkland – Bellevue – Overlake – Redmond
234	Kenmore – Juanita – Kirkland – S. Kirkland – Bellevue
236	Woodinville – Totem Lake – Juanita – Kirkland
238	Bothell – Finn Hill – Kingsgate – Rose Hill – Kirkland
245	Kirkland – Overlake – Bellevue – Factoria
248	Kirkland – Rose Hill – Redmond
255	Kingsgate – Kirkland – Seattle
540	Kirkland – UW Seattle (Sound Transit)
935	Northshore – Bastyr – Kingsgate
	Kirkland @ S. Kirkland Park and Ride Only
249	Bellevue – S. Kirkland – Overlake
256	Overlake – S. Kirkland – Seattle
	Peak Commuter Routes
252	Evergreen – Kingsgate – Houghton – Seattle
257	Brickyard – Kingsgate – Houghton – Seattle
260	Kenmore – Juanita – Houghton – Seattle
265	Redmond – Houghton – Seattle
277	Juanita – Kingsgate – Houghton – UW Seattle
291	Kingsgate – Redmond

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Table T-1: Transit Routes in Kirkland (Continued)

Peak Metro Routes that Serve I-405 Freeway Stations	
237	Woodinville – Kingsgate – Houghton – Bellevue
342	Shoreline – Bothell – Brickyard – Houghton – Bellevue
Sound Transit I-405 Service	
532	Bellevue – Houghton – Kingsgate – Canyon Park – Lynnwood
535	Bellevue – Houghton – Kingsgate – Bothell – Canyon Park – Everett Station

Existing and Future Travel Demand

Travel within Kirkland is currently dominated by vehicles, and single-occupant vehicles in particular. Single-occupant vehicles now carry 76 percent of work trips. Of the 24 percent of work trips involving other than single-occupant vehicles, transit carries 5.5 percent and the rest are in carpools or vanpools (source: 2000 Census). The existing pattern of travel reflects a dependence on individual vehicles for most mobility needs.

Due to projected population increases and resulting mobility needs, both vehicle miles and hours of travel will increase on City arterials. This will result in increased congestion throughout the City's transportation network particularly during the peak hours. The City's forecasts show that overall level of service will become worse in the future when compared to 2003 conditions. Improvements targeted at congested intersections and continued increases in nonmotorized uses and transit service will help to mitigate congestion somewhat. In general, however, the signalized intersections within the City will continue to remain congested in the future.

Relationship to Other Elements

The Transportation Element is an integral part of the Comprehensive Plan. The Element provides for the mobility of people, goods, and services in a way that supports the goals and policies of other elements. The Transportation Element provides for the transportation system necessary to support the land use (commercial and residential) pattern described in the Land Use and Housing Elements. Specific transportation goals and policies work to maintain and preserve the community's character and natural features presented in the Community Character and Natural Environment Elements and the Shoreline Area Chapter, while providing for mobility. The Transportation Element strives to support important aspects of the Economic Development Element by enabling goods, services, customers, and employees access to Kirkland businesses. Finally, transportation policies in this Element provide the foundation for the transportation projects identified in the Six-Year Capital Facilities Plan in the Capital Facilities Element.

B. The Transportation Concept

The Transportation Element seeks to develop and maintain a balanced multimodal transportation system that supports the City's land use plan and integrates with the regional transportation system.

While striving to accomplish this fundamental concept, the Element addresses the transportation problems we face: peak-hour congestion, balancing increased traffic with maintaining neighborhood character, and the limited transportation mode alternatives available.

The goals and policies which follow describe the connection between transportation and land use, establish means to increase travel options, provide for mobility within the system, describe desirable characteristics of transportation facility design, discuss the financial aspects of a transportation system and, finally, encourage coordination with other jurisdictions.

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C. Transportation Goals and Policies

Goal T-1: Establish a transportation system that supports Kirkland's land use plan.

Goal T-2: Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

Goal T-3: Work to establish and promote a transit and ridesharing system that provides viable alternatives to the single-occupant vehicle.

Goal T-4: Establish and maintain a roadway network which will efficiently and safely provide for vehicular circulation.

Goal T-5: Establish level of service standards that encourage development of a multimodal transportation system.

Goal T-6: Design transportation facilities that reflect neighborhood character.

Goal T-7: Balance overall public capital expenditures and revenues for transportation.

Goal T-8: Actively work to identify, review, and resolve interjurisdictional transportation concerns affecting Kirkland.

Linking Transportation and Land Use

Streets serve to both connect and separate neighborhoods and activity centers in Kirkland. Through this system of links and barriers, the street system exerts a powerful influence on land use patterns in the City. Although much of the City of Kirkland's street network is already developed, future development will bring changes. Integrating land use and transportation requires ensuring that the transportation facilities which are built serve existing and future commercial, industrial, and residential land uses, and support the land use goals of the City.

Goal T-1: Establish a transportation system that supports Kirkland's land use plan.

Policy T-1.1: Establish a transportation system that provides access by a variety of modes of travel to neighborhoods, the Downtown, Totem Lake, other commercial and industrial areas, and major institutions.

Downtown Kirkland

As the Vision Statement and Framework Goal 9 describes, a high priority for Kirkland residents is providing convenient access to all areas of Kirkland. This access can be provided by transit, cars, bicycles, or walking. It also must accommodate freight traffic to serve our commercial and industrial areas. The intent of this policy is to stress that Kirkland residents need to be able to access places not only by car, but also by other means with safe and reliable connections.

Policy T-1.2: Mitigate adverse impacts of transportation systems and facilities on neighborhoods.

Transportation systems and facilities can have adverse impacts on neighborhoods such as:

- Safety problems due to speeding vehicles and increasing traffic volumes;
- Increased traffic resulting from drivers seeking alternate routes to congested arterials; and/or
- Air and noise pollution.

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A combination of the following techniques should be used to avoid these impacts or mitigate them when avoidance is not possible:

- Developing and implementing neighborhood-appropriate street design standards which are appropriate for the neighborhood;
- Creating an interconnected system of streets to distribute the traffic load and lessen the burden on any given street;
- Avoiding connections through residential neighborhoods when they will create new routes for commercial/industrial traffic or by-pass routes for I-405; and/or
- Continuing use of the Neighborhood Traffic Control Program to address safety, speed, and/or volume issues.

Policy T-1.3: Establish a street system that promotes and maintains the integrity of neighborhoods.

The street system is more than a circulation route; it is a major land use that exerts a strong influence on neighborhood integrity. Too often, this influence is seen as disruptive and intrusive. The street system can, however, be a strong positive force in promoting neighborhood integrity. As an example, streets can:

- Allow for local and internal circulation;
- Contribute to a sense of safety and security;
- Have urban greenery and take advantage of opportunities for scenic views;
- Provide recreational opportunities for bicyclists and pedestrians; and
- Be a place for special events and street block parties.

To promote neighborhood integrity, streets should be classified, designed, and developed in a manner that recognizes and respects the surrounding neighborhood.

Policy T-1.4: Ensure that there is sufficient right-of-way.

Dedication of land may be required to construct, install or extend the transportation system, such as streets, sidewalks, or bicycle lanes. Dedication may be for, among other purposes, alternative ingress and egress routes, emergency vehicle and police access, safe turning movements, through road connectivity and any other improvement needed to ensure an adequate, safe and efficient transportation system. In addition, dedication may be necessary to comply with the City's adopted street standards and/or to maintain the City's adopted level of service standards for road concurrency.

The City may also relinquish its interest in streets through a street vacation. Once a vacation is approved by the City Council, the property ownership usually reverts back to the abutting property owners. When considering street vacations, the City needs to carefully evaluate the long-term impact of the vacation on the entire transportation system, including pedestrian connections, public views and open space.

Increasing Travel Options

Kirkland's vision for transportation promotes the movement of people throughout the City and region by expanding opportunities to use transit, ridesharing, and nonmotorized facilities. Increased use of alternatives to the single-occupant vehicle can break the cycle of demand for wider streets while maintaining a high level of accessibility to all areas of the City. Alternate modes of travel reduce energy consumption, air pollution, and noise levels. By encouraging high-occupancy vehicles and other modes of travel, the City may be able to save the capital expense of road construction and maintenance and enhance the environment. For these reasons, the City should pursue all possible alternatives to the single-occupant vehicle.

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Goal T-2: Develop a system of pedestrian and bicycle routes that forms an interconnected network between local and regional destinations.

Policy T-2.1: Promote pedestrian and bicycle networks that safely access commercial areas, schools, transit routes, parks, and other destinations within Kirkland and connect to adjacent communities, regional destinations, and routes.

Crosswalk in Downtown

Safety and convenient access are important considerations when prioritizing nonmotorized projects. Currently, there are places in Kirkland that are unsafe or difficult to access by foot or bicycle. Similarly, there are incomplete regional connections in our existing nonmotorized system.

Policy T-2.2: Promote a comprehensive and interconnected network of pedestrian and bike routes within neighborhoods.

Cul-de-sacs and dead-end roads are a common cause of incomplete pedestrian and bicycle networks. Direct and convenient nonmotorized connections on foot or by bicycle between cul-de-sac bulbs to nearby destinations should be a priority when planning the nonmotorized system.

Beyond these connections, however, the City must work to create an overall nonmotorized system that gives people a convenient alternative to driving and an opportunity for physical activity.

Policy T-2.3: Increase the safety of the nonmotorized transportation system by removing hazards and obstructions and through proper design, construction, and maintenance, including retrofitting of existing facilities where needed.

Safety considerations should be paramount when planning pedestrian and bicycle routes.

Policy T-2.4: Design streets with features that encourage walking and bicycling.

To promote the nonmotorized system and alternative modes to the single-occupant vehicle, streets should include pedestrian and bicycle facilities. Consistent with the City's Complete Streets policies, bicycle and pedestrian ways should be accommodated in the planning, development and construction of transportation facilities.

Policy T-2.5: Maintain a detailed Active Transportation Plan (ATP).

The ATP is a functional plan that provides a detailed examination of the existing pedestrian, bicycle, and equestrian systems, criteria for prioritizing improvement, and suggested improvements. The ATP designates specific City rights-of-way and corridors for improved pedestrian, bicycle and equestrian circulation, and sets design standards for nonmotorized facilities.

The Transportation Element lays the fundamental policy basis for the ATP.

The current ATP is consistent with the general policy direction of the Transportation Element. The ATP will need to be updated regularly to incorporate new and revised standards for facilities and to reprioritize routes to be built.

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Goal T-3: Work to establish and promote a transit and ridesharing system that provides viable alternatives to the single-occupant vehicle.

Policy T-3.1: Design transit facilities (stations, centers, park and rides, shelters, etc.) that are easily accessible from other modes of transportation, accommodating those with disabilities, and appealing to pedestrians, and that may contain residential, office, institutional and/or commercial uses where appropriate.

The location of transit facilities within the overall transportation system should be carefully considered so that they will be easily accessible by all modes.

Part of reducing reliance on the single-occupant vehicle is getting people to use transit rather than drive. Residential, office and/or commercial developments near transit facilities are helpful in achieving this reduction. When designing transit facilities, bicycle racks, ample sidewalks, and nonmotorized connections to neighborhoods should be considered.

For those that drive, parking or drop-off facilities are important considerations. Ridesharing to transit facilities should be encouraged.

The Americans with Disabilities Act requires convenient access for those with disabilities to new and remodeled facilities. Facility planning should also take into account the access needs of all ages of children, teens, adults, and seniors.

Appealing facilities that are well lit, comfortable, and clean will encourage greater use.

Policy T-3.2: Support the development of regional high-capacity transit serving Kirkland.

Kirkland should support regional transit planning and implementation because transit is provided by regional agencies and most transit trips are to destinations outside of Kirkland. Kirkland can support regional transit planning by actively participating in regional transit discussions, providing land use patterns which will ultimately support a system, and adopting goals and policies which make our position known and are consistent with the needs of a successful regional system.

Policy T-3.3: Locate the routes and stations of the future regional high-capacity transit system to support Kirkland's transportation and land use plans.

Kirkland should provide input to the appropriate regional bodies to ensure that the locations of high-capacity transit routes and stations are consistent with our land use and transportation plans.

The Land Use Element and the Totem Lake Neighborhood Plan support creation of a transit center in Totem Lake and a compact commercial district in the northeast quadrant of the interchange with I-405 and NE 124th Street in part because it has good potential for transit service. These policies, and others, should provide the basis for transportation decisions.

Policy T-3.4: Work cooperatively with Metro, Washington State Department of Transportation and Sound Transit to provide regional and local transit service with linkages between Kirkland neighborhoods, business districts, and other important local and regional destinations.

Park and Ride at NE 70th Place

Transit service which concentrates on connections within Kirkland and to other Eastside destinations, while maintaining convenient commuter service across the lake, are high priorities. To achieve this, Kirkland should work with the transit providers in making our views known.

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Policy T-3.5: Implement the Commute Trip Reduction (CTR) Plan to reduce single occupancy vehicle (SOV) use and vehicle miles traveled (VMT) as set forth in Kirkland's CTR Plan.

The State of Washington Commute Trip Reduction Efficiency Law requires local jurisdictions to develop and implement a plan to reduce both single occupancy vehicle trips and reduce overall vehicle miles traveled. Kirkland's Commute Trip Reduction Plan is a collection of adopted goals and policies, facility and service improvements and strategies about how we will help make progress for reducing drive alone trips and vehicle miles traveled. These strategies will encourage multi-modal transportation in Kirkland. The Plan encourages partnership and coordination with other agencies and employers.

The CTR Plan goals set targets for reductions at affected work sites. The work site must contain 100 or more employees. At a minimum, the City of Kirkland works with CTR affected employers to establish transportation demand management programs to reduce SOV and VMT to meet CTR goals. Kirkland must work cooperatively with the State, Metro, and other local jurisdictions to promote the success of the CTR program.

As part of the CTR program, urban centers may be voluntarily designated to further reduce SOV and/or VMT beyond the basic CTR requirements through a Growth and Transportation Efficiency Center (GTEC) Plan. Totem Lake, as a State designated urban center, is recognized as a GTEC. The purpose of the GTEC is to increase access to the employment and residential centers while reducing the number of drive alone trips. Within the GTEC plan, the pool of affected employers may be expanded beyond CTR affected employers and may also include selected residential uses.

Maintaining Mobility

The Comprehensive Plan promotes a new balance among the various modes of travel through an expansion of transit, ridesharing, walking, and bicycling opportunities on or adjacent to the existing vehicular system.

The plan supports the maintenance and enhancement of vehicular capacity on the existing system and recognizes the continued importance of vehicular circulation to local mobility, but not at the expense of other modes of travel or community character. This strategy is likely to result in higher levels of roadway congestion in specific areas, but provides more travel options for those who choose to use alternative modes of travel.

Goal T-4: Establish and maintain a roadway network which will efficiently and safely provide for vehicular circulation.

Policy T-4.1: Promote efficient use of existing rights-of-way through measures such as:

- ***Intersection improvements;***
- ***Time-of-day parking restrictions along congested arterials;***
- ***Signal timing optimization;***
- ***Added center left-turn lanes; and***
- ***Limiting left turns along congested arterials.***

The existing vehicular circulation system in Kirkland is largely complete, and improvements to this system should focus on maximizing the use of existing vehicle lane capacity, rather than physically adding new lane capacity. Road widening solely for general purpose use is generally not preferred.

This policy supports the use of transportation system management strategies to maximize the use of existing rights-of-way. These are relatively low-cost expenditures – for intersection or signal improvements, for example – which increase the efficiency of the system.

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Policy T-4.2: Consider improvements such as queue bypasses, time-of-day parking restrictions, transit signal priority and arterial transit lanes for transit or carpool use that will increase the people-carrying capacity of roadways.

When faced with a limited transportation system and financial resources, it becomes critical to make the best of what we have. One way the City can increase the people-carrying capacity of existing roadways and encourage alternative modes of transportation is by improving mobility for transit or carpools.

In Kirkland and most other cities, transit currently sits in traffic with other vehicles. The benefit of riding transit, consequently, is diminished considerably. Lanes on arterial streets dedicated to transit or carpools are not commonly found as yet. Before Kirkland can build arterial transit lanes or queue bypasses, study is needed to ensure that it is physically possible and will be safe. Another important consideration is the impact of these facilities on community character. Transit mobility will serve Kirkland residents, but the City will have to balance the desire for transit mobility with negative impacts when making the decision whether or not to proceed.

Policy T-4.3: Maintain a system of arterials, collectors, and local access streets that forms an interconnected network for vehicular circulation.

Traffic spread over a "grid" of streets, which is designed appropriate to neighborhood and system needs, flows smoothly. Kirkland has a number of existing cul-de-sacs, which help to create quiet and private residential areas. At the same time, however, cul-de-sacs and dead ends result in uneven traffic distribution and benefit some at the expense of others. Valuable emergency response time can also be lost when connections between arterials are missing. Pedestrian and bicycle traffic is also interrupted. Future street connections should be considered when the City reviews its Citywide road network system.

In addition, future street connections should be studied and determined with each neighborhood plan update. The neighborhood plan study should include looking at efficient and convenient road connections to schools, parks and other public facilities, and commercial centers. Adding bicycle, pedestrian and other nonmotorized connections should also be considered.

Policy T-4.4: Minimize bypass traffic and safety impacts on neighborhood streets.

Cut-through traffic onto neighborhood streets from nearby congested arterials or collectors does occur. The intent of this policy is to minimize the amount of cut-through traffic and the impacts of this traffic when it does occur by the use of various forms of traffic-calming techniques.

Policy T-4.5: Maintain and improve convenient access for emergency vehicles.

Emergency vehicles need to access sites using the shortest route possible. Providing an interconnected street network is the best way to achieve direct access.

One major barrier to direct access in Kirkland is I-405. Consideration should be given to providing for emergency vehicle access when new nonmotorized crossings of I-405 are planned.

Policy T-4.6: Ensure adequate access to commercial and industrial sites.

The transportation needs of commercial and industrial uses are important to Kirkland's future. For our economy to prosper, freight, employees, and customers must be able to move to and from businesses. This further supports the need to minimize congestion in the community.

Policy T-4.7: Maintain the road system in a safe and usable form for all modes of travel where possible.

A significant portion of the public's investment in City infrastructure resides in the pavement of City streets. The City must protect this investment through regular road maintenance. The Public Works Department has operated a Pavement Management Program since 1990. The pavement condition of each road has been inventoried to allow for the strategic investment of maintenance funds. Besides pavement mainte-

nance, Public Works has a regular program for pavement marking, storm drain cleaning, street sweeping, sign maintenance, and similar street maintenance.

With current funding levels and repair strategies, the overall condition of City streets is stable. If the level of funding does not stay constant or increase, the overall condition could fall off at a rate from which it would be impossible to recover without a very large investment. A higher level of funding would cause the overall condition to improve.

Policy T-4.8: Provide for local vehicular access to arterials, while minimizing conflicts with through traffic.

One problem along some arterials is the high number of driveways or places where vehicles can enter or leave traffic lanes. An excessive number of driveways is a safety concern for pedestrians on sidewalks. Also, traffic flow is unexpectedly interrupted when vehicles turn between intersections. However, properly located and spaced driveways can benefit traffic flow.

The intent of this policy is to permit the minimum number of curb cuts needed to adequately serve abutting uses. The end result will be minimizing conflicts with pedestrian and vehicular traffic.

Goal T-5: Establish level of service standards that encourage development of a multimodal transportation system.

Policy T-5.1: Develop an approach for measuring level of service based on the standards described below in Policies T-5.2, T-5.3 and T-5.5.

Developing level of service standards for a transportation system is a difficult task. After much study and discussion, the City decided that an intersection capacity technique was the best choice for Kirkland.

Mode split (the percentage of single-occupant vehicle use and transit or other mode use) is used as the level of service standard for transit (Policy T-5.2). For vehicular level of service, the City has developed an aggregated roadway level of service measure that averages the capacity of signalized intersections within a geographic area (Policy T-5.3). Nonmotorized level of service is expressed in terms of miles of completed bicycle and pedestrian facilities and number of complete corridors and reflects the desire to create an interconnected system of bicycle and pedestrian routes (Policy T-5.5).

Policy T-5.2: By the year 2022, strive to achieve a mode split of 65 percent single-occupant vehicle (SOV) and 35 percent transit/other mode.

The mode splits described in this policy are the level of service standard for transit. They represent a long-term goal for the City to achieve through providing improved transit accessibility, transportation demand management programs, efficient nonmotorized systems, locating shops and services close to home, and other strategies to get people out of single-occupant vehicles. The standard is expressed in terms of a desired percentage of peak-hour home to work trips by single-occupant vehicles and transit/other mode.

Policy T-5.3: Utilize the peak-hour vehicular level of service standards shown in Table T-2 – a two-part standard for the transportation subareas and for individual system intersections.

This policy establishes a peak-hour level of service (LOS) standard for vehicular traffic based on 2022 land use and road network. It is a two-part standard, based on the ratio of traffic volume to intersection capacity (V/C) for signalized system intersections. Volume to capacity ratios were determined using the planning method from *Transportation Research Circular 212.*

The two standards are as follows:

(1) Maximum allowed subarea average V/C for signalized system intersections in each subarea may not exceed the values listed in Table T-2.

(2) No signalized system intersection may have a V/C greater than 1.40.

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Table T-2
Maximum Allowed Subarea Average V/C Ratio for System Intersections and Individual Intersection LOS

Use as Maximum Allowed Average V/C after January 1st ⇨	2012	2013	2014	2015	2016	2017
Forecast for Year ⇨	2017	2018	2019	2020	2021	2022
Subarea	Average V/C Ratio					
Southwest	0.90	0.91	0.91	0.91	0.91	0.91
Northwest	0.94	0.95	0.95	0.96	0.97	0.97
Northeast	0.92	0.93	0.93	0.94	0.95	0.95
East	1.07	1.07	1.07	1.08	1.08	1.08
North	In the North subarea, no subarea LOS has been established. Appropriate standards will be established upon completion of an updated land use plan as part of the Comprehensive Plan update.					
Maximum allowed individual system intersection V/C ratio	1.40	1.40	1.40	1.40	1.40	1.40

The LOS standards were calculated through the use of a computerized transportation model shared with Bellevue and Redmond, called the BKR model. The standards are the outcome of land use and transportation network choices which were entered into the model.

In particular, a network of capacity projects was chosen that could be funded by levels of spending that are consistent with the amount spent on transportation capacity projects in recent years. The network also consists of projects that are in keeping with the community values found elsewhere in this Comprehensive Plan. It is the intention of this plan that intersection performance will be kept as high as possible, preferably with V/C ratios under 1.30. However, forecasts show that this may not be attainable so the maximum intersection V/C ratio is set at 1.40.

Table T-2 is designed to provide standards for the maximum allowed subarea average V/C ratio for the next few years. To pass the road concurrency test, new development may not exceed the maximum allowable subarea average V/C ratio for system intersections (see Table T-3 below) six years into the future starting from the date of making a concurrency application. The first row of Table T-2 (italicized) indicates the year that a proposed development is submitted for a road concurrency test. The second row indicates the six-year horizon that a new development's traffic impacts are assessed. Each set of standards in the column below the application year and the horizon year is based on an LOS forecast for six years in the future. Forecasts are derived by linear interpolation between forecasts for 2004 and 2022 and include forecasted impacts of development that have been approved but not yet built.

Example of how to use Table T-2: A development is seeking concurrency approval during 2012. What is the set of standards for subarea average V/C that the development must not exceed? Since the project is seeking approval in 2012, the second column of numbers is used. This set of standards (southwest subarea standard of 0.90, northwest subarea standard of 0.90, etc.) corresponds to a forecast horizon year of 2017. The development's traffic impacts may not cause the level of service at the signalized system intersections to exceed these standards.

In addition, the LOS methodology requires both standards (subarea average V/C and V/C not to exceed 1.40) to be satisfied. Traffic from a new development may not cause the average V/C of system signalized

intersections in a subarea to operate at an LOS lower than the average and may not cause any system signalized intersection to exceed a V/C ratio of 1.40 as shown in Table T-2.

The capacity (C) of a signalized intersection is determined by a wide variety of factors, including signal phasing, number of lanes and traffic mix. It is a measure of the maximum number of vehicles that can go through the intersection in a set period of time. The volume (V) is the sum of "critical" volumes that indicate maximum demand at the intersection. The volume to capacity ratio (V/C) is the volume divided by the capacity. For the purpose of the plan, V/C is calculated for the PM peak hour.

A V/C of less than 1.0 means that the volume at the intersection is less than the capacity. If the V/C is equal to 1.0, the intersection's volume and capacity are equal. When the V/C is greater than 1.0, volume has exceeded capacity. As the V/C increases, the congestion at the intersection increases and the level of service gets worse.

Underlying the standards is the concept that the system is not considered failing if the peak-hour is congested. Use of the peak-hour for measuring level of service is standard in the region. This "worst case" measure implies that traffic will flow better during the rest of the day. Although very high, the V/C ratios in the standard are acceptable because there is a limited amount of funding available to improve the situation, and it is not possible to build our way out of congestion even if funds were unlimited. Road widening has quality-of-life impacts that many in the community find unacceptable.

The standards are based on congestion becoming worse in the future. This reflects the proposed network and funding, and an increase in trips. The need to move to alternative modes becomes all the more clear when we can see the peak-hour vehicular level of service forecasted for the future.

Table T-3 describes subarea average V/C ratios for 2003 traffic counts and for forecast 2004 and 2022 volumes. These numbers are provided for reference.

Table T-3
2003 and Forecasted Subarea Average LOS for System Intersection

Subarea Average V/C Ratio			
Subarea	2003 Traffic Count	2003 Traffic Plus Projects Approved but Not Yet Built	2022
Southwest	0.77	0.89	0.92
Northwest	0.83	0.88	1.01
Northeast	0.76	0.86	0.99
East	0.94	1.04	1.10

IX. Transportation

Table T-4 below lists intersections that are not system intersections and are therefore not considered in the calculations.

Table T-4
Signalized Intersections That Are Not System Intersections

The following signalized intersections are not system intersections.
6th Street/4th Avenue
3rd Street/Kirkland Avenue
6th Street/Kirkland Way
98th Avenue NE/NE 120th Place
93rd Avenue NE/Juanita Drive
97th Avenue NE/Juanita Drive
NE 124th Street/120th Place NE
NE 118th Street/120th Avenue NE
NE 128th Street/116th Way NE
120th Avenue NE/NE 80th Street
NE 132nd Street/108th Avenue NE
NE 132nd Street/Juanita High School
NE 132nd Street/Juanita Elementary School
120th Avenue Pedestrian Signal at Totem Lake Mall
NE 140th Street/132nd Avenue NE
NE 137th Street/100th Avenue NE

Figure T-5 below shows the City's five subareas used for the maximum allowed subarea average V/C ratio standard in Table T-2 for signalized system intersections.

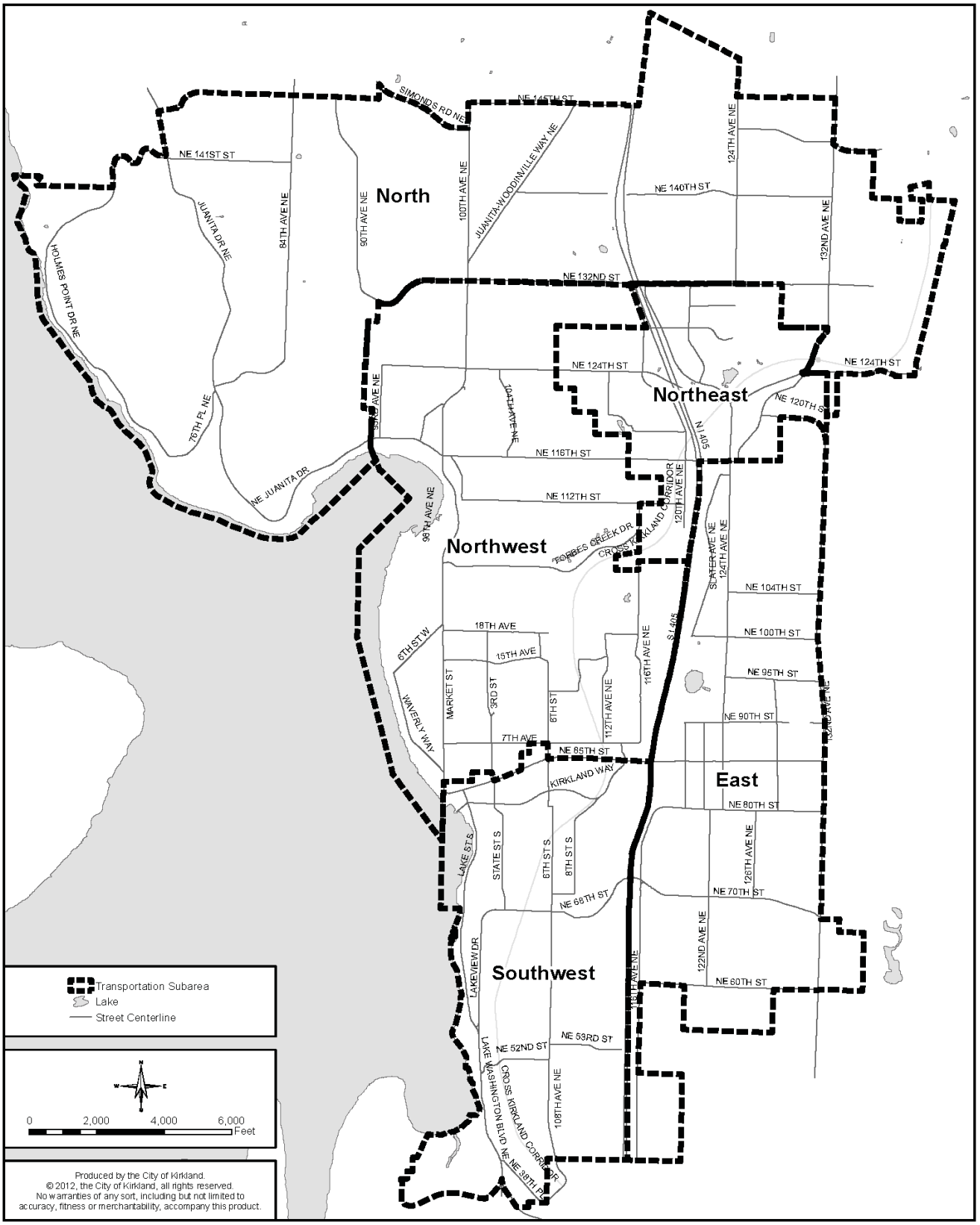

Figure T-5: Transportation Subareas

IX. Transportation

Policy T-5.4: Require new development to mitigate site-specific transportation impacts.

The standards in T-5.3 relate to maintaining the long-term performance of the road network system throughout Kirkland. Besides meeting those standards, new development should mitigate its site-specific impacts to the transportation system. For individual development, the nature and timing of the mitigation should be based on the magnitude and proportionate share of the impacts and the timing of development. Mitigation may be necessary for impacts to intersections and local roadways, including pedestrian, bicycle and transit facilities. In addition, mitigation may be needed for site access to and from the local roadway system. The City will provide traffic impact guidelines to establish the basis for evaluating what needs to be mitigated and the timing and extent of the mitigation.

Policy T-5.5: Strive to achieve a level of service standard by 2022 of 59 miles of bicycle facilities and 155 miles of pedestrian facilities, six east-west and four north-south completed pedestrian corridors, and four east-west and two north-south completed bicycle corridors as identified in the Nonmotorized Transportation Plan.

The LOS standard for the nonmotorized system reflects the desire to create an interconnected system of pedestrian and bicycle routes. The standards for bicycle and pedestrian facilities are based on the priority routes indicated in the Nonmotorized Transportation Plan (NMTP) and the City's Transportation Program Evaluation Criteria. The City considers the following factors when determining the location of new bicycle and pedestrian facilities: completion of the interconnected system established in the NMTP, safe school routes and connections to public facilities, commercial centers and regional pedestrian and bicycle routes. The existing system has deficiencies and gaps that the proposed standards strive to complete.

Figures T-2 and T-3 show the proposed bicycle and pedestrian corridor facilities to meet Policy T-5.5.

Policy T-5.6: Promote transportation demand management (TDM) strategies to help achieve mode split goals. TDM may include incentives, programs, or regulations to reduce the number of single-occupant vehicle trips.

Transportation demand management seeks to modify travel behavior and encourage economical alternatives to the single-occupant vehicle. Transportation demand management strategies try to influence behavior in a way that keeps expansion of the transportation system at a minimum. The more successful TDM strategies are, the more successful the City will be at achieving the mode split goals described in Policy T-5.2.

The following are some TDM strategies: (1) working cooperatively with employers to implement programs that encourage employees not to drive alone; (2) requiring certain new developments to implement programs to reduce single-occupant vehicle use; (3) adjusting parking standards to meet existing demand and reducing them further when transportation options increase; and (4) supporting paid parking or other parking policy measures.

Policy T-5.7: Assure that transportation improvements are concurrent with development to maintain the vehicular level of service standard for the development's subarea.

The Growth Management Act requires that transportation improvements and programs needed to accommodate planned growth be provided concurrently as new development occurs. Concurrency requires the balancing of three primary factors: available financial resources, acceptable transportation system performance conditions (level of service), and the community's long-range vision for land use and transportation.

IX. Transportation

Design of Transportation Facilities

Streets, transit stops or centers, sidewalks, and other transportation facilities make up a large part of the community. The physical appearance and condition of these facilities greatly impact the "look" of Kirkland. Also, their design impacts the users' convenience and safety and can be a factor in whether people drive, ride bicycles, or walk. The design of facilities is very important given our goal to encourage alternatives to the single-occupant vehicle.

Goal T-6: Design transportation facilities that reflect neighborhood character.

Policy T-6.1: Pave streets and access easements to the smallest dimensions necessary to accommodate their designed function, including emergency access.

This is accomplished through standards currently in use. Appropriate street standards also help support sustainable building practices called for elsewhere in the plan.

Policy T-6.2: Design and construct transportation facilities to be barrier-free and easily accessible to all citizens, consistent with the Americans with Disabilities Act.

Sidewalks and transit facilities (see related Policy T-3.1) should be available and accessible to all.

Policy T-6.3: Strive to preserve existing significant trees and include appropriate street trees and landscaping in the right-of-way that enhance the streetscape and provide shade, but do not interfere with existing overhead utility lines or other preexisting conditions.

Street trees along Market Street

Prior to any roadway design, existing conditions in the area should be thoroughly assessed. New rights-of-way should be landscaped to create attractive corridors that will complement, rather than disrupt, existing neighborhood amenities. However, public views from rights-of-way should not be blocked with landscaping; appropriate landscaping should be used for rights-of-way with public views to maintain the views as the vegetation matures. If existing significant trees are removed, they should be replaced or the loss should be otherwise mitigated. In some cases, transportation projects may be modified to preserve significant trees.

Policy T-6.4: Use corridor, neighborhood or regional plans to study the relationship of transportation facilities and the adjacent neighborhoods in detail.

Corridors in the City are unique and planning for them will vary. The character of each particular neighborhood should be considered to successfully integrate transportation facilities. The neighborhood plan update process is an appropriate time to identify the important characteristics of the neighborhood and the preferences of its residents to use in evaluating transportation projects. Along with the individual neighborhood characteristics and residents' preferences, regional and State transportation plans should be considered in developing City transportation corridors.

IX. Transportation

Policy T-6.5: Minimize change to topography to the extent feasible when building new rights-of-way.

The provision of streets requires large public expenditures for construction and maintenance, as well as other nonmonetary costs to the living environment. This policy is intended to minimize these costs by preserving land and the natural landscape to the maximum extent possible.

Policy T-6.6: Identify, evaluate, and minimize or mitigate the negative environmental impacts of transportation facilities and services whenever feasible.

When planning transportation facilities, both public and private, the environmental impacts of the facility need to be evaluated and minimized, and appropriate mitigation included. Environmental impacts of transportation facilities and services can include shoreline, wetland and stream encroachment, vegetation removal, air quality deterioration, noise pollution, and landform changes.

Finance

The Comprehensive Plan's funding strategy gives high priority to maintenance of the existing circulation system in a safe and serviceable condition. The strategy for the remaining transportation resources largely devotes them to creating a better balance among travel modes. These new systems include pedestrian, bicycle, transit, and ridesharing facilities and services. This support of new systems results in a funding trade-off, financing the creation of a new, more balanced, circulation environment that gets more use by pedestrians and transit users, instead of financing road improvements that could potentially make it easier to travel by single-occupant vehicle.

Through mitigation some of the forecasted congestion could be reduced (though not eliminated) by substantially increasing the amount of transportation funding and using the revenues to increase system capacity (particularly road capacity). However, it has been assumed in the Comprehensive Plan that available financial resources will continue to be substantially limited. In addition, the region's jurisdictions have already reached a consensus not to base their transportation future (nor funding for it) on a vastly expanded road system or the dispersed patterns of development that these systems support. This consensus is supported by State and federal policies and funding guidelines. Kirkland's plan and funding strategy are consistent with these larger systems and financial commitments.

The Growth Management Act requires local jurisdictions, including Kirkland, to identify and fund transportation improvements that are sufficient to sustain the level of service standard that has been selected and approved by that jurisdiction. The program of improvements must be funded by revenues that Kirkland agrees to commit toward their construction over the next six-year period. Revenues may include sources such as transportation mitigation fees, State and federal grants, and others.

Section D of this chapter contains a list and map of transportation projects that have been identified for the 20-year planning period. The Capital Facilities Element includes the six-year program of improvements with identified funding sources. Each year the six-year program will be reassessed with regard to funding commitments, project feasibility, and relationship to the implementation of the Comprehensive Plan. The Capital Facilities Element also includes a list of projects over a multi-year period in time as noted in the combined Tables CF-8 and CF-8A.

In addition to local projects managed and financed primarily by Kirkland, a number of regional projects are expected to be implemented during the planning period. These projects include improvements to I-405 and its interchanges as well as a regional high-capacity transit system. For this Comprehensive Plan, the high-capacity transit system is assumed to be funded and constructed within the planning period consistent with transportation plans for the adjoining cities of Bellevue and Redmond. The Kirkland Comprehensive Plan can be amended to reflect any future changes in the regional system.

IX. Transportation

Goal T-7: Balance overall public capital expenditures and revenues for transportation.

Policy T-7.1: Actively seek financial resources to pursue construction and maintenance of transportation facilities.

The City pursues funds authorized by federal transportation funding legislation and various State sources. The City also uses revenue sources such as road impact fees and the Second One-Quarter Percent Real Estate Excise Tax.

Policy T-7.2: Recognize financial constraints when planning transportation facilities.

Transportation funding is limited and unpredictable. Proposals for transportation facilities must be realistic and reflect this condition.

Policy T-7.3: Provide transportation investments in transit and nonmotorized improvements, and support federal and State efforts for high-occupancy vehicle improvements that provide alternatives to single-occupant vehicles.

In order to meet goals for creating a multimodal transportation system, investments must be made in the effective modes which have historically been overlooked.

Coordination

Kirkland's transportation system is not isolated but is integrally connected with a system of federal, State, and County transportation systems and the systems of adjacent jurisdictions. Consequently, transportation planning requires careful interjurisdictional coordination.

The Growth Management Act requires close coordination among local, regional, and State plans and programs. This requirement assumes that each jurisdiction is part of a larger whole and that the actions of one affect and are affected by the actions of other jurisdictions, particularly in the area of transportation planning.

Goal T-8: Actively work to identify, review, and resolve interjurisdictional transportation concerns affecting Kirkland.

Policy T-8.1: Participate in regional transportation planning.

The City of Kirkland is represented on a variety of regional transportation planning programs along with other municipalities, King County, Washington State Department of Transportation and Sound Transit.

Policy T-8.2: Participate in the planning, design, funding, and development of a regional high-capacity transit system as a travel option for regional passenger travel.

A regional system will greatly influence Kirkland's pattern of development, character, and mobility. For this reason it is important for the City to be actively involved in the decisions which will shape the system. We need to ensure that it will be developed in a way that is consistent with our land use and transportation plans.

Policy T-8.3: Coordinate City transportation plans with the transportation and land use plans of neighboring jurisdictions, special districts and State and regional transportation agencies, as appropriate, to identify opportunities to maximize benefits while minimizing financial expense.

Kirkland is already actively coordinating with Bellevue and Redmond through the use of a shared computerized transportation model. Regional transportation planning programs are other useful forums for coordinating plans. In addition, the City should look for new opportunities for interlocal and regional coordination.

Policy T-8.4: Investigate interlocal agreements which will require development within neighboring jurisdictions to pay transportation impact fees to Kirkland and require development within Kirkland to mitigate significant impacts on the transportation systems of neighboring jurisdictions.

Traffic, and its impacts, is not affected by City limits. Development close to City boundaries will generate

traffic which may impact intersections or streets in adjoining cities. Interlocal agreements are legally binding documents spelling out how two adjoining cities will handle mitigation of impacts in these cases.

Policy T-8.5: Cooperate with adjacent jurisdictions to develop a regional network of facilities for nonmotorized transportation.

Bicyclists and pedestrians, like vehicular traffic, have needs which cross City boundaries. The best regional nonmotorized system is one which is carefully coordinated to provide the most convenient and safe routes to major destinations.

Policy T-8.6: Strive to meet federal and State air quality standards.

Kirkland is part of the central Puget Sound region which is a federally designated non-attainment area. In order to comply with the Washington State Clean Air Conformity Act, the federal Clean Air Act, and to be consistent with the Growth Management Act, Metropolitan Transportation Plan, and Electric Vehicle Infrastructure Act, the City must commit to strategies to reduce pollutants. As described previously in this Element, the City is committed to creating a balanced multimodal transportation system and decreased dependence on fossil fuel. The emphasis on increasing travel options and reducing single-occupant vehicle use is the City's primary strategy for complying with air quality legislation. Additionally, encouraging electric vehicle use helps maintain air quality. The City will also coordinate with the Puget Sound Air Pollution Control Agency as needed to address air quality issues.

D. TRANSPORTATION FACILITY PLAN

Tables CF-8, CF-8A and CF-9, located in the Capital Facilities Plan, and Table T-5 and Figures T-2, T-3, T-6 and T-7 in this Element are interrelated. Together they comprise the overall transportation system and network for the City. Table CF-8 is a list of funded six-year transportation projects along with a financing plan; Table CF-8A, combined with Table CF-8, provides a multi-year financing plan for transportation projects projecting beyond the adopted six-year Capital Facilities Plan. Table CF-9 is a list of all 2022 transportation projects and is divided into three sections: (1) Nonmotorized; (2) Street Improvements; and (3) Traffic Improvements (which includes transit projects). Projects are grouped under these broad categories for ease of reference.

Table CF-9 provides the following information for each transportation project listed:

- Cost;
- CIP project number (if funded in CIP);
- Source; and
- Supporting goal.

Table T-5 contains a narrative description and more information about each project. Figure T-6 is a map of the projects.

Figures T-2 and T-3 are the Potential Pedestrian System and Potential Bicycle System, respectively. The potential projects shown on these maps are also shown in Figure T-6 and listed in Table CF-9, located in the Capital Facilities Element. Figures T-2 and T-3 show both the existing and proposed system and, therefore, display the total potential nonmotorized transportation system.

Figure T-7 is a map of the existing signalized intersections. Proposed signals and signal improvements are mapped in Figure T-6 and listed in Table CF-9, located in the Capital Facilities Element.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded)

Nonmotorized Improvements

NM20-2 Nonmotorized Facilities

Location: 116th Avenue NE (south section) (NE 60th Street to south City limits)

Description: Widen road to provide a paved five-foot bicycle lane north and southbound. Install pedestrian/equestrian trail along the east side of road. This trail will be separated from the roadway where possible. Partially funded CIP project NM 0001; schedule completion is dependent on grant funding.

NM20-3 Sidewalk

Location: 13th Avenue, Van Aalst Park to 3rd Street

Description: Install sidewalk and planter strip along the south side of 13th Avenue. Candidate CIP project NM 0054, included as a part of annual nonmotorized program NM 8888.

NM20-4 Pedestrian/Bicycle Facility

Location: 18th Avenue at Crestwoods Park/NE 100th Street, from 6th Street to 111th Avenue NE at the Cross Kirkland Corridor right-of-way

Description: Installation of paved path and overpass along the described corridor. Unfunded CIP project NM 0031.

NM20-5 Sidewalk

Location: 93rd Avenue NE from Juanita Drive to NE 124th Street

Description: Installation of curb, gutter, sidewalk and planter strip along the east side. Candidate CIP project NM 0032, included as a part of annual nonmotorized program NM 8888.

NM20-6 Sidewalk

Location: NE 52nd Street between approximately Lake Washington Boulevard and 108th Avenue NE

Description: Install curb, gutter and sidewalk along the north side of the street. Improve storm drainage along project alignment. Unfunded CIP project NM 0007.

NM20-7 Nonmotorized Facilities

Location: Cross Kirkland Corridor right-of-way, between south and north City limits (formerly the BNSF right-of-way)

Description: 10- to 12-foot-wide two-way bike/pedestrian multi-purpose asphalt trail. Unfunded CIP project NM 0024.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

NM20-8 Sidewalk

Location: 122nd Avenue NE, between NE 70th Street and NE 75th Street

Description: Install curb, gutter and sidewalk along the east side between NE 70th Street and NE 75th Street, and along the west side between NE 75th Street and NE 80th Street. Candidate CIP project NM 0055; included as a part of annual nonmotorized program NM 8888.

NM20-10 Bike Lane

Location: NE 100th Street, Slater Avenue NE to 132nd Avenue NE

Description: Provide markings, minor widening and other improvements to create a bicycle connection from the 100th Street overpass to 132nd Avenue NE. Candidate CIP project NM 0036, included as a part of annual nonmotorized program NM 8888.

NM20-11 Sidewalk

Location: NE 95th Street from 112th Avenue NE to 116th Avenue NE

Description: Install curb, gutter, sidewalk and storm drain along north side. Unfunded CIP project NM 0045.

NM20-12 Sidewalk

Location: 18th Avenue West from Market Street to Rose Point Lane

Description: Install curb, gutter, sidewalk and storm drain along roadway. Candidate CIP project NM 0046, included as a part of annual nonmotorized program NM 8888.

NM20-13 Sidewalk

Location: 116th Avenue NE from NE 70th Street to NE 75th Street

Description: Installation of curb, gutter, sidewalk and storm drainage along east side of roadway. Unfunded CIP project NM 0047.

NM20-14 Sidewalk

Location: 130th Avenue NE, NE 95th Street to NE 100th Street

Description: Installation of curb, gutter, sidewalk and storm drainage along west side of roadway. Unfunded CIP project NM 0037.

NM20-15 Pedestrian/Bicycle Bridge

Location: NE 90th Street, 116th Avenue NE to Slater Avenue; across I-405

Description: Pedestrian/bicycle bridge approximately 10 feet wide, with approaches on each end. Unfunded CIP project NM 0030.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

NM20-16A Sidewalk

Location: NE 90th Street, 124th Avenue NE to 128th Avenue NE (Phase I)

Description: Installation of curb, gutter and sidewalk along the north side. Unfunded CIP project NM 0056.

NM20-16B Sidewalk

Location: NE 90th Street, 120th Avenue NE to 124th Avenue NE, and 128th Avenue NE to 132nd Avenue NE (Phase II)

Description: Installation of curb, gutter and sidewalk along the north side. Unfunded CIP project NM 0026.

NM20-17 Pathway/Sidewalk

Location: NE 60th Street from 116th Avenue NE to 132nd Avenue NE

Description: Half-street improvements along the north side to include pathway/sidewalk, curb and gutter (where appropriate), storm drainage/conveyance (natural and/or piped) and minor widening; accommodations for equestrians will be reviewed during the design. Unfunded CIP project NM 0048.

NM20-18 Pedestrian Facility

Location: Forbes Creek Drive from Crestwoods Park to Juanita Bay Park

Description: Installation of curb, gutter and sidewalk along the north side of Forbes Creek Drive from approximately 108th Avenue NE to approximately Market Street. Unfunded CIP project NM 0041.

NM20-19 Pedestrian/Bicycle Facility

Location: NE 126th Street/Totem Lake Way from 120th Avenue NE to 132nd Place NE

Description: Installation of paved multi-purpose path and storm drainage along corridor. Candidate CIP project NM 0043, included as a part of annual nonmotorized program NM 8888.

NM20-20 Crosswalk Upgrades

Location: Various locations throughout City

Description: Pedestrian crossing improvements. Projects are combined and funded every two years under CIP project NM 0012.

NM20-21 Annual Pedestrian Improvements

Location: Various locations throughout City

Description: Continue to prioritize and install pedestrian improvements to meet the adopted level of service.

NM20-22 Annual Bicycle Improvements

Location: Various locations throughout the City

Description: Continue to prioritize and install bicycle improvements to meet the adopted level of service.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

NM20-23 Sidewalk

Location: 112th Avenue NE from NE 87th Street to NE 90th Street

Description: Installation of curb, gutter, sidewalk and storm drain along west side of roadway. Candidate CIP project NM 0049, included as a part of annual nonmotorized program NM 8888.

NM20-24 Sidewalk

Location: NE 80th Street from 126th Avenue NE to 130th Avenue NE

Description: Installation of curb, gutter, sidewalk and storm drain along south side of roadway. Candidate CIP project NM 0050, included as a part of annual nonmotorized program NM 8888.

NM20-26 Sidewalk

Location: Kirkland Way from 8th Street to Ohde Avenue

Description: Installation of curb, gutter, sidewalk and storm drain along the roadway. Unfunded CIP project NM 0063.

NM20-27 Sidewalk

Location: NE 112th Street from 117th Place NE to the Cross Kirkland Corridor right-of-way crossing

Description: Installation of curb, gutter, sidewalk and storm drain along north side of roadway. Candidate CIP project NM 0053, included as a part of annual nonmotorized program NM 8888.

NM20-28 Annual Sidewalk Maintenance Program

Location: Citywide

Description: Repair and replacement of existing sidewalks to provide safe pedestrian travel ways and to maintain the value of the sidewalk infrastructure. Funded CIP project NM 0057.

NM20-29 Nonmotorized/Emergency Access Connection

Location: 111th Avenue from Cross Kirkland Corridor north to Forbes Creek Drive

Description: Install paved nonmotorized facility with retractable bollards and/or emergency vehicle actuated gate(s) to prevent through traffic. Identified in the Highlands Neighborhood Plan; unfunded CIP project NM 0058.

NM20-32 Pedestrian Enhancements

Location: Park Lane from Lake Street to Peter Kirk Park – Phase II

Description: Repair and replacement of aged and broken sidewalks, curb, gutter and storm drain along this heavily used downtown pedestrian corridor. Existing trees will be reviewed with the objective of improving the overall tree canopy; low impact development standards will be incorporated into the project. Unfunded CIP project NM 0064 001.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

NM20-35 Annual Nonmotorized Program

Location: Citywide

Description: Install up to various funding levels in annually any number of funded or unfunded CIP projects based on the active transportation plan criteria. Funded CIP project NM 8888.

NM20-36 Sidewalk

Location: NE 104th Street between 126th Avenue NE and 132nd Avenue NE

Description: Install curb, gutter, sidewalk and storm drainage along roadway to improve existing Mark Twain Elementary School walk route. Unfunded CIP project NM 0061.

NM20-37 Sidewalk

Location: 19th Avenue from Market Street to 4th Street

Description: Install curb, gutter, sidewalk and storm drainage along south side of road to improve existing walk route to Kirkland Jr. High School. Unfunded CIP project NM 0062.

NM20-38 Sidewalk

Location: NE 132nd Street from 84th Avenue NE to 87th Avenue NE

Description: Install curb, gutter, sidewalk and planter strip along NE 132nd Street that currently does not have a sidewalk. ADA compliant wheelchair ramps will be installed at crosswalk locations. Unfunded CIP project NM 0071 as grant funding is sought.

NM20-40 Nonmotorized Facilities

Location: Cross Kirkland Corridor right-of-way, between south and north City limits (formerly the BNSF right-of-way)

Description: A Master Plan to develop the Cross Kirkland Corridor as a public asset for future transportation purposes. Development of the corridor is envisioned to include facilities for pedestrians and bicycles, and in the future, transit. Unfunded CIP project NM 0024. Funded CIP project CNM 0024 101.

NM20-41 Nonmotorized Facilities

Location: NE 132nd Street from 82nd Avenue NE to 84th Avenue NE

Description: Install curb, gutter and sidewalk along south side of NE 132nd Street and west side of 84th Ave NE to complete missing links between Carl Sandberg Elementary and Finn Hill Middle School. Unfunded CIP project CNM 0072.

NM20-42 Nonmotorized Facilities

Location: Citywide

Description: Establishing a new neighborhoods-based project for minor transportation related improvements throughout the city. Funded CIP project NM 0073.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

NM20-43 Nonmotorized Facilities

Location: 90th Avenue NE north of NE 134th Street

Description: Construct curb, gutter and sidewalk along west side of 90th Avenue NE from NE 134th Street to the north, connecting existing sidewalk near 13427 90th Avenue NE. Unfunded CIP project NM 0074.

NM20-44 Nonmotorized Facilities

Location: 84th Avenue NE from NE 145th Street to NE 124th Street

Description: Construct curb, gutter and sidewalk along the west side of 84th Avenue NE between NE 145th Street to Finn Hill Junior High School, and along west side of 84th Avenue NE between NE 128th Street and NE 124th Street. Unfunded CIP project CNM 0075.

NM20-45 Nonmotorized Facilities

Location: NE 140th Street between 127th Place NE and 132nd Avenue NE

Description: Construct curb, gutter and sidewalk along south side of NE 140th Street between 127th Place NE and 132nd Avenue NE. Unfunded CIP project NM 0026.

NM20-46 Nonmotorized Facilities

Location: North side of NE 140th Street from Juanita-Woodinville Way to 113th Avenue NE

Description: Construct curb, gutter and sidewalk along south side of NE 140th Street from Juanita-Woodinville Way to 113th Avenue NE. Unfunded CIP project NM 0077.

NM20-47 Nonmotorized Facilities

Location: South side of NE 140th Street from Juanita-Woodinville Way to 113th Avenue NE

Description: Construct curb, gutter and sidewalk along south side of NE 140th Street between Juanita-Woodinville Way and 113th Avenue NE. Unfunded CIP project NM 0078.

NM20-48 Nonmotorized Facilities

Location: NE 140th Street between 124th Avenue NE and 127th Place NE

Description: Construct curb, gutter and sidewalk along south side of NE 140th Street between 124th Avenue NE and 127th Place NE. Unfunded CIP project NM 0079.

Street Improvements

ST20-1 New Street

Location: 118th Avenue NE, NE 116th Street to NE 118th Street

Description: Extend two-lane roadway, including sidewalk facilities, storm drainage and landscaping. Unfunded CIP project ST 0060.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

ST20-2 New Street

Location: 119th Avenue NE, NE 128th Street to NE 130th Street

Description: Extend two-lane roadway, including sidewalk facilities, storm drainage and landscaping. Unfunded CIP project ST 0061.

ST20-3 Street Widening

Location: 120th Avenue NE, NE 128th Street to NE 132nd Street

Description: Reconstruct from the existing three-lane section to five lanes with sidewalks. Candidate CIP project ST 0063, included as a part of the annual concurrency street improvements ST 8888.

ST20-4 Street Widening

Location: 124th Avenue NE, NE 116th Street to NE 124th Street

Description: Widen to five lanes, from existing three lanes with sidewalks. Candidate CIP project ST 0059; design began in 2007; however, completion is dependent upon grant funding included as part of the annual concurrency street improvements ST 8888.

ST20-5 Street Widening

Location: 124th Avenue NE, NE 85th Street to NE 116th Street

Description: Widen to three lanes, with a center two-way left-turn lane (including landscaped center median islands where possible) and two travel lanes, construct bicycle lanes, curb and gutter, sidewalk, storm drainage and landscaping. Unfunded CIP project ST 0064.

ST20-6 Street Widening

Location: 132nd Avenue NE/NE 85th Street to NE 120th Street

Description: Widen to three lanes with bike lanes, sidewalks, curb and gutter, landscaping and storm drainage improvements. Unfunded CIP project ST 0056.

ST20-7 Bridge Replacement

Location: 98th Avenue NE at Forbes Creek

Description: Reconstruct bridge across Forbes Creek from Market Street into Juanita area in order to meet current seismic requirements. Unfunded CIP project ST 0055.

ST20-8 New Street

Location: 120th Avenue NE from NE 116th Street to Cross Kirkland Corridor crossing

Description: Construct 2/3 lanes as needed with pedestrian/bicycle facilities. Unfunded CIP project ST 0073.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

ST20-9 New Street

Location: NE 120th Street (east section), from Slater Avenue NE to 124th Avenue NE

Description: Construct 2/3 lanes as needed with pedestrian/bicycle facilities. Project ST 0057-001 moved to funded for 2012 due to receipt of federal STP grant.

ST20-10 Street Improvements

Location: 120th Avenue NE, from Totem Lake Boulevard to NE 128th Street and Totem Lake Plaza

Description: Install various traffic calming measures, on-street parking, pedestrian and landscape improvements. Unfunded CIP project ST 0070.

ST20-11 New Street

Location: NE 130th Street, Totem Lake Boulevard to 120th Avenue NE

Description: Extend two-lane roadway including nonmotorized facilities, storm drainage and landscaping. Unfunded CIP project ST 0062.

ST20-12 New Street

Location: NE 120th Street (west section) from 124th Avenue NE to Cross Kirkland Corridor crossing

Description: Construct 2/3 lanes as needed with pedestrian/bicycle facilities. Unfunded CIP project ST 0072.

ST20-13 Annual Street Preservation Program

Location: Various sites throughout the City based on Pavement Management Program

Description: Patch and overlay existing streets to provide safe travel ways and maintain the value of the street infrastructure. Funded CIP project ST 0006.

ST20-14 Street Widening

Location: NE 132nd Street from 100th Avenue NE to the WSDOT interchange

Description: Addition of landscape and median islands, repair of curb, gutter and sidewalk. Repaving and restriping to accommodate bike lanes. Configuration as outlined in the 2008 NE 132nd Street master plan. Unfunded CIP project ST 0077.

ST20-15 Street Widening

Location: NE 132nd Street from WSDOT Interchange to 124th Avenue NE

Description: Addition of landscape and median islands, repair of curb, gutter and sidewalk. Repaving and restriping to accommodate bike lanes. Configuration as outlined in the 2008 NE 132nd Street master plan. Unfunded CIP project ST 0078.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

ST20-16 Street Widening

Location: NE 132nd Street from 124th Avenue NE to 132nd Avenue NE

Description: Addition of landscape and median islands, repair of curb, gutter and sidewalk. Repaving and restriping to accommodate bike lanes. Configuration as outlined in the 2008 NE 132nd Street master plan. Unfunded CIP project ST 0079.

ST20-17 Street Improvements

Location: Annual Striping Program

Description: Annual program to maintain markings that identify travel lanes and other guidance markings for auto, pedestrian, bicycle, transit and other forms of transportation. The program will result in restriping of more than 30 miles of collector and arterial streets throughout the City. Funded CIP project ST 0080.

ST20-18 Annual Concurrency Street Improvements

Location: Citywide

Description: This project provides for the construction and reconstruction of city roadways to meet concurrency needs to help the City attain the 2022 level of service standards established in the Comprehensive Plan. Candidate projects under this annual program are identified above and include other improvements, as deemed appropriate. Funded CIP project ST 8888.

ST20-19 Annual Street Preservation Program – One Time Project

Location: NE 85th Street

Description: The overlay of NE 85th Street coincident with intersection, roadway and other improvements associated with CIP projects NM 0051, ST 0075, TR 0078, and TR 0080. Funds became available through the State Department of Transportation (WSDOT) as a result of the recent jurisdictional transfer of SR908 from the WSDOT to the City of Kirkland. Funded CIP project ST 0006 002.

ST20-20 Street Maintenance and Pedestrian Safety

Location: Citywide

Description: Voter approved levy funded annual project to meet City Council goals for dependable infrastructure, balanced transportation, neighborhoods, public safety, and financial stability. Funded CIP project ST 0006 003.

ST20-21 Development Opportunity Program

Location: Totem Lake

Description: Establishing a new project in anticipation of development opportunities funded through grants that may require a City matching portion. Unfunded CIP project ST 0081.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

ST20-22 Street

Location: Juanita Drive Corridor

Description: Master plan to guide future capital improvement construction phases for Juanita Drive. Funded CIP project ST 0082.

ST20-23 Street

Location: 100th Avenue NE from NE 139th Street to NE 145th Street

Description: Widen existing roadway to improve existing five-lane to two-lane transition. Unfunded CIP project ST 0083.

Intersection Improvements

TR20-1 Traffic Signal

Location: 100th Avenue NE/NE 124th Street

Description: Construct a northbound receiving lane on the north leg of the intersection and conversion of existing northbound right-turn lane to a through/right-turn configuration. Unfunded CIP project TR 0084.

TR20-2 Intersection Improvements

Location: Kirkland Way/Cross Kirkland Corridor Abutment/Intersection Improvements

Description: New railroad undercrossing along Kirkland Way, installation of sidewalks and bike lanes in immediate vicinity, improve clearance between roadway surface and overpass, and improve sight distance. Unfunded CIP project TR 0067.

TR20-3 Traffic Signal

Location: 6th Street/Kirkland Way

Description: Construct a new signal at this intersection. The project will include controlled pedestrian crosswalks. Funded CIP project TR 0065.

TR20-4 Intersection Improvements

Location: Totem Lake Way/120th Avenue NE

Description: Install traffic signal to minimize traffic conflict, improve safety and traffic operation. It is anticipated that the design and construction timing is concurrent with the development of Totem Lake Mall which will be required to install the traffic signal as part of SEPA mitigation. Unfunded CIP project TR 0099.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-5 HOV Queue Bypass

Location: NE 124th Street and I-405, east to southbound

Description: Construct an additional lane and signal improvements to allow connection from NE 124th Street to the HOV lane on the southbound freeway access ramp. Unfunded CIP project TR 0057.

TR20-6 Intersection Improvements

Location: NE 85th Street/120th Avenue NE

Description: Project will add one northbound right-turn lane and one new westbound and one new eastbound travel lane on NE 85th Street. Candidate CIP project TR 0088, included as a part of the annual concurrency traffic improvements TR 8888.

TR20-7 Intersection Improvements

Location: NE 85th Street/132nd Avenue NE

Description: Project will add one new westbound and one new eastbound travel lane on NE 85th Street. Unfunded CIP project TR 0089.

TR20-8 HOV Queue Bypass

Location: NE 85th Street and I-405, east to southbound

Description: Construct an additional lane and signal improvements to allow connection from NE 85th Street to the HOV lane on the southbound freeway access ramp. Funded CIP project TR 0056.

TR20-9 HOV Queue Bypass

Location: Lake Washington Boulevard at Northup Way

Description: Add southbound Lake Washington Boulevard queue bypass lane from Cochran Springs to westbound SR 520. Unfunded CIP project TR 0068.

TR20-10 Queue Bypass and HOV Facilities

Location: Various as identified

Description: Intersection improvements or HOV lanes that are not included in other projects as follows:

1. NE 116th Street/I-405 queue bypass eastbound to southbound (unfunded CIP project TR 0072)
2. NE 85th Street/I-405 queue bypass westbound to northbound (unfunded CIP project TR 0074)
3. NE 70th Street/I-405 queue bypass eastbound to southbound (unfunded CIP project TR 0073)
4. NE 124th Street/I-405 westbound to northbound (unfunded CIP project TR 0075)

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-11 Intersection Improvements

Location: Various as identified

Description: New signals or signal improvements that are not included in other projects are as follows:

1. Kirkland Avenue/Lake Street South
2. Lake Street South/2nd Avenue South
3. Market Street/Central Way
4. Market Street/7th Avenue NE
5. NE 53rd Street/108th Avenue NE
6. NE 60th Street/116th Avenue NE
7. NE 60th Street/132nd Avenue NE
8. NE 64th Street/Lake Washington Boulevard
9. NE 70th Street/120th Avenue NE or 122nd Avenue NE
10. NE 80th Street/132nd Avenue NE
11. NE 112th Street/124th Avenue NE
12. NE 116th Street/118th Avenue NE
13. NE 116th Street/124th Avenue NE (northbound dual left turn) (TR 0092)
14. NE 126th Street/132nd Place NE
15. NE 128th Street/Totem Lake Boulevard
16. NE 100th Street/132nd Avenue NE
17. Market Street/Forbes Creek Drive
18. NE 112th Street/120th Avenue NE
19. Totem Lake Boulevard/120th Avenue NE

TR20-12 Intersection Improvements

Location: NE 70th Street/132nd Avenue NE

Description: Install westbound and northbound right-turn lanes. Candidate CIP project TR 0086, included as a part of the annual concurrency traffic improvements TR 8888.

TR20-13 Intersection Improvements

Location: Lake Washington Boulevard at NE 38th Place

Description: Install upgrades to the existing signalized intersection including one additional northbound Lake Washington Boulevard travel lane through the intersection. Replace all existing pedestrian facilities and consolidate commercial driveways where feasible. Funded CIP project TR 0090.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-14 Intersection Improvements

Location: 124th Avenue NE at NE 124th Street – Phase III

Description: Install improvements on the north leg of this intersection. Candidate CIP project TR 0091; included as a part of the annual concurrency traffic improvements, TR 8888.

TR20-15 Intersection Improvements

Location: 100th Avenue NE/NE 132nd Street

Description: Construct a northbound receiving lane on the north leg of the intersection and conversion of existing northbound right-turn lane to a through/right-turn configuration. Construct a second southbound left-turn lane. Candidate CIP project TR 0083, included as a part of the annual concurrency traffic improvements TR 8888.

TR20-16 Traffic Signal

Location: Central Way and Park Place entrance (between 4th Street and 5th Street)

Description: Install traffic signal to minimize traffic conflict, improve safety and traffic operation; in addition to these vehicular improvements, existing un-signaled crosswalks at 5th Street and 4th Street will be eliminated. It is anticipated that the design and construction timing is concurrent with the development of Park Place which will be required to install the traffic signal as part of SEPA mitigation. Funded CIP project TR 0082.

TR20-17 Intersection Improvements

Location: NE 132nd Street/124th Avenue NE

Description: Extend existing eastbound left-turn lane to 500 feet and add a second 500-foot eastbound left-turn lane. Widen and restripe east leg to match west leg, widen and restripe north leg for 1,000 feet to provide two northbound through lanes with one southbound left-turn lane and one southbound through/right turn lane. Restripe south leg to match north leg; these improvements will allow this intersection to maintain a vehicular level of service less than the required 1.4 volume to capacity ratio. Funded CIP project TR 0096.

TR20-18 Intersection Improvements

Location: NE 132nd Street at 116th Way NE to Totem Lake Boulevard/I-405

Description: Coordination of City ROW and intersection improvements in association with the WSDOT's Half-Diamond Interchange at NE 132nd Street and I-405 as recommended in the NE 132nd Street Master Plan. Funded CIP project TR 0098.

TR20-20 Intersection Improvements

Location: Central Way/4th Street

Description: Extend two-way left turn by moving crosswalk to Park Place Signal. Funded CIP project TR 0103.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-21 Intersection Improvements
Location: 6th Street South/4th Avenue
Description: Dual eastbound left turn, with widening on 6th Street. Funded CIP project TR 0104.

TR20-22 Intersection Improvements
Location: Central Way/5th Street
Description: Install new traffic signal. These improvements will allow the intersection to maintain a level of service less than the required 1.4 volume to capacity ratio. Funded CIP project TR 0105.

TR20-23 Intersection Improvements
Location: 6th Street/7th Avenue
Description: Add left-turn lanes on northbound and southbound approaches. Funded CIP project TR 0106.

TR20-24 Intersection Improvements
Location: Market Street/15th Avenue
Description: Install new traffic signal. These improvements will allow the intersection to maintain a level of service less than the required 1.4 volume to capacity ratio. Funded CIP project TR 0107.

TR20-25 Intersection Improvements
Location: NE 85th Street/124th Avenue NE
Description: Add northbound right-turn-only pocket. Funded CIP project TR 0108.

TR20-26 Intersection Improvements
Location: NE 132nd Street/Juanita High School
Description: Construct a 250-foot eastbound right turn lane to allow this intersection to maintain a vehicular level of service less than the required 1.4 volume to capacity ratio. Unfunded CIP project TR 0093.

TR20-27 Intersection Improvements
Location: Totem Lake Plaza/120th Ave NE Intersection Improvements
Description: Install traffic signal to minimize traffic conflict, improve safety and traffic operation. It is anticipated that the design and construction timing is concurrent with the development of Totem Lake Mall which will be required to install the traffic signal as part of SEPA mitigation. Funded CIP project TR 0110.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-28 Intersection Improvements

Location: Totem Lake Plaza/Totem Lake Boulevard

Description: Install traffic signal and associated roadway improvements between Totem Lake Boulevard and 120th Avenue NE to minimize traffic conflict, improve safety and traffic operations through the Totem Lake Mall. It is anticipated that the design and construction timing is concurrent with the development of Totem Lake Mall which will be required to install the improvements as part of SEPA mitigation. Funded CIP project TR 0109.

TR20-29 Intersection Improvements

Location: NE 132nd Street/108th Avenue NE

Description: Construct a 250-foot westbound right turn lane to allow this intersection to maintain a vehicular level of service less than the required 1.4 volume to capacity ratio. Unfunded CIP project TR 0094.

TR20-30 Intersection Improvements

Location: NE 132nd Street/Fire Station Access

Description: Modify existing signal to include pedestrian actuated option, as recommended in the NE 132nd Street Master Plan, to aid in helping the corridor with capacity issues in anticipation of the WSDOT Half-Diamond interchange at I-405 and NE 132nd Street and Totem Lake redevelopment. Unfunded CIP project TR 0095.

TR20-31 Intersection Improvements

Location: NE 132nd Street/132nd Ave NE

Description: Extend the eastbound left turn and right turn lanes to 500 feet; these improvements will allow this intersection to maintain a vehicular level of service less than the required 1.4 volume to capacity ratio. Unfunded CIP project TR 0097.

TR20-34 Annual Concurrency Traffic Improvements

Location: Citywide

Description: This project provides for the construction and reconstruction of traffic signals and/or intersections to meet concurrency needs to help the City attain the 2022 level of service standards established in the Comprehensive Plan. Candidate projects under this annual program are identified above and include other improvements, as deemed appropriate. Funded CIP project TR 8888.

TR20-36 Kirkland ITS Improvements – Phase II

Location: Citywide

Description: The incorporation of Intelligent Transportation System (ITS) needs, as identified in the Kirkland Intelligent Transportation System (KITS) Plan approved by Council in 2008. ITS measures will be employed to upgrade current signal equipment, connect signals and ITS field locations with a new central operations management location. Unfunded CIP Project TR 0111 001.

IX. Transportation

Table T-5
Project Descriptions for the 2022 Transportation Project List (Funded – Unfunded) (Continued)

TR20-38 Kirkland Citywide Safety and Traffic Flow Improvements

Location: Citywide

Description: Improvements to safety and traffic flow on Kirkland's main arterial corridors through signal timing optimization, signal interconnection enhancements and communication improvements. The project will also enhance signal interconnection and improve communication with the NE 124th Street ITS corridor. Funded CIP project TR 0113 000.

TR20-39 6th Street and Central Way Intersection Improvement Phase 2

Location: 6th Street and Central Way

Description: New signature "Gateway" to the Central Downtown area of Kirkland, and frontage improvements on 6th Street, additional travel lanes, a bicycle lane, and pedestrian improvements. Unfunded CIP project TR 0100 100.

TR20-40 Kirkland ITS Phase IIB

Location: NE 132nd Street, 120th Avenue/124th Avenue NE in Totem Lake

Description: Intelligent Transportation System improvements at nine signals to connect these corridors to the Phase I ITS project and to the City's Traffic Management Center. Unfunded CIP project TR 0111 002.

TR20-41 Kirkland ITS Phase IIC

Location: NE 132nd Street, 120th Avenue/124th Avenue NE in Totem Lake

Description: Intelligent Transportation System improvements at 15 signals to connect these corridors to the Phase I ITS project and to the City's Traffic Management Center. Unfunded CIP project TR 0111 003.

TR20-42 Slater Avenue NE Traffic Calming Phase I

Location: Slater Avenue from 100th Street NE to NE 112th Street

Description: Traffic calming measures along Slater Avenue, including traffic circles, curb bulbs, and a mid-block raised crosswalk. Activated emergency vehicle beacon may also be installed, if further study deems it necessary.

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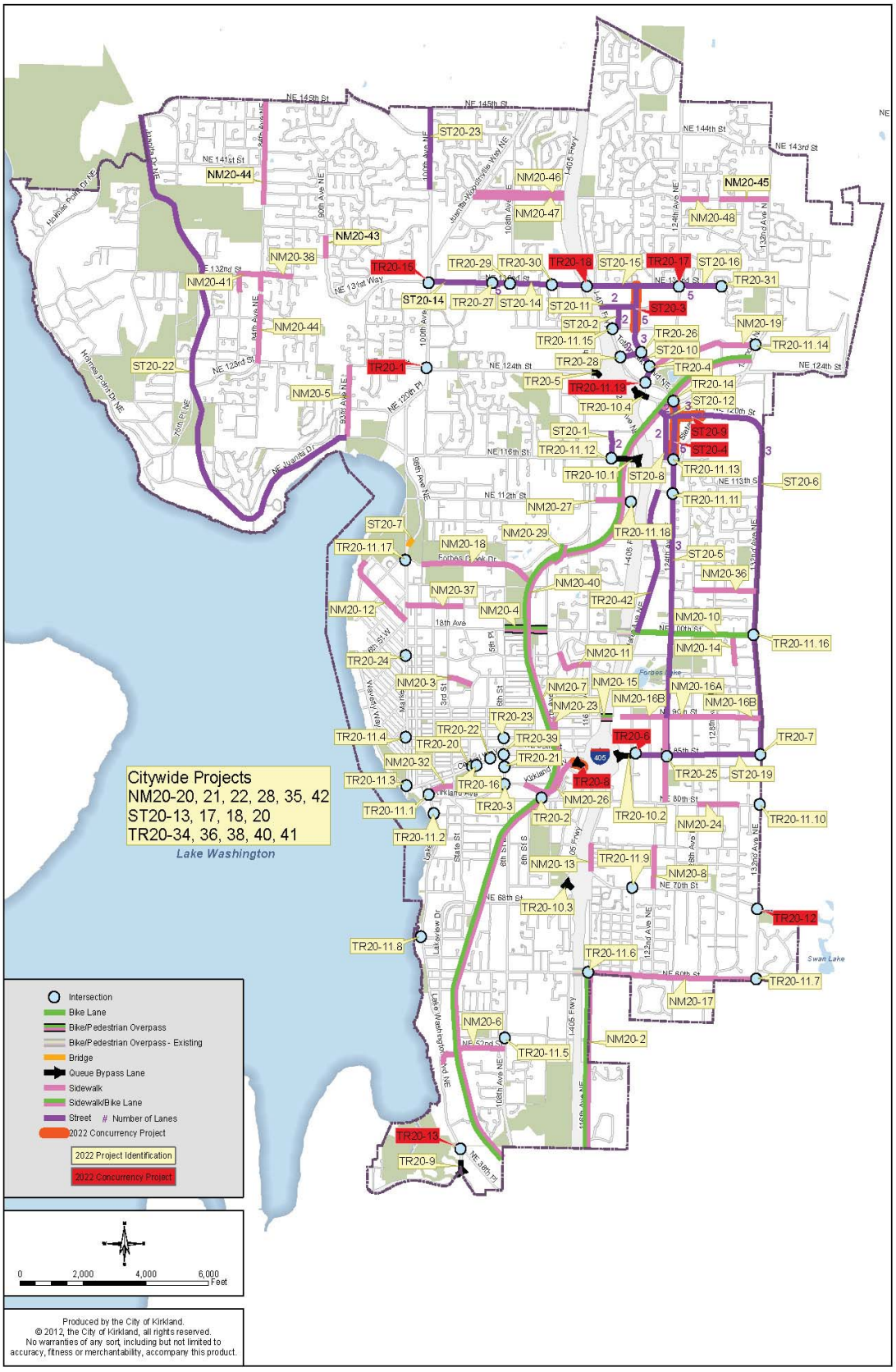

Figure T-6: Transportation Project List Funded/Unfunded

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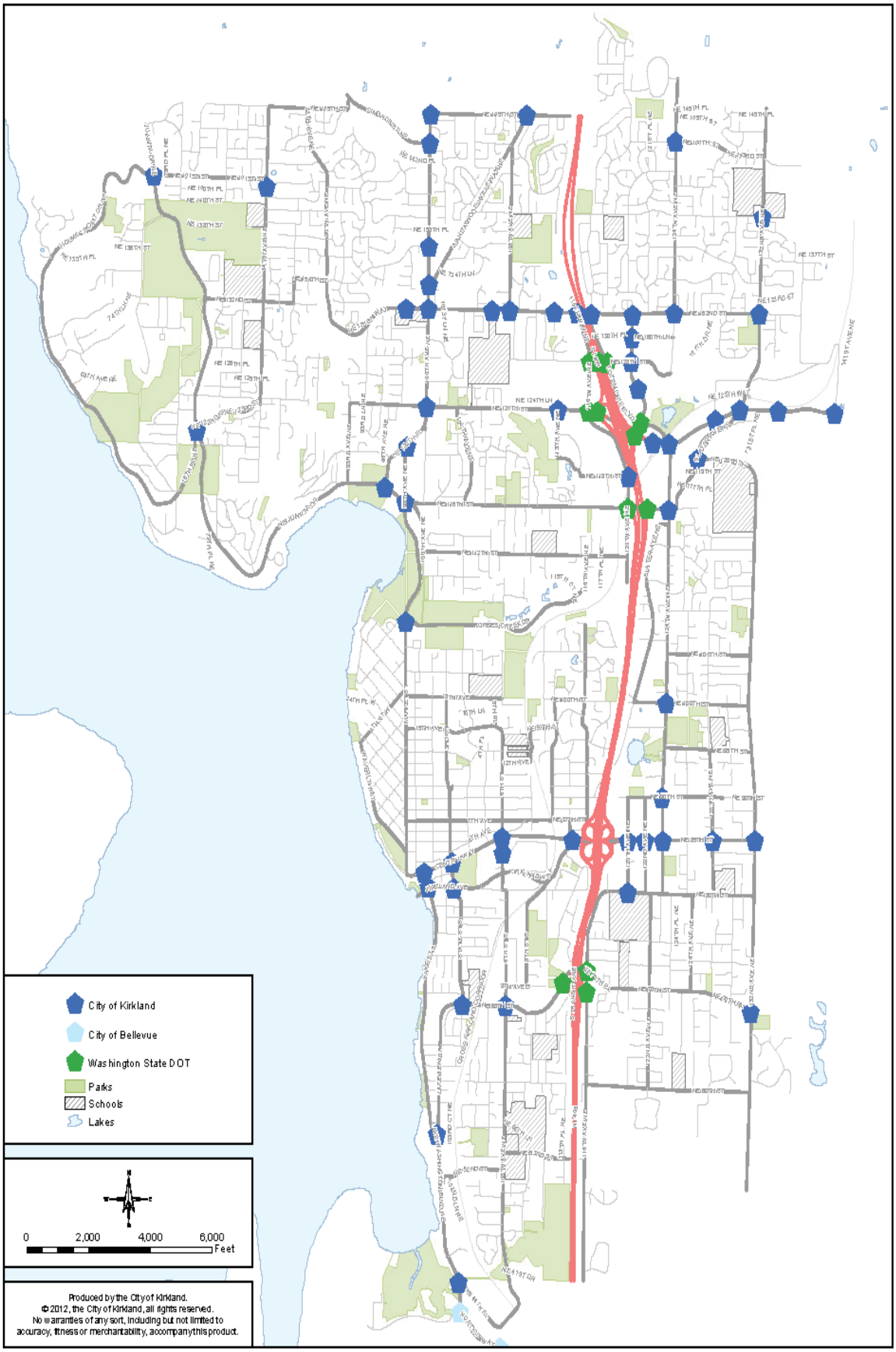

Figure T-7: Signalized Intersections

IX. Transportation

E. State Transportation Plans and Policies

State law requires that certain information about State facilities be provided in local comprehensive plans. The information does not represent a standard that must be met, but rather a disclosure of the status of State facilities now and in the future. Much of the required information is contained in Tables T-6 and T-7. Also, Figure T-1 shows State facilities in Kirkland. There are two State facilities in Kirkland, SR 908 and I-405. SR 908 runs from just west of I-405 to 132nd Avenue along NE 85th Street, a distance of 0.99 miles. It is an urban principal arterial and is not designated as a Highway of Statewide Significance. From the southern border to the northern border of Kirkland, I-405 is 5.07 miles in length and is an Urban Interstate as well as a Highway of Statewide Significance.

For Highways of Statewide Significance, Washington State Department of Transportation (WSDOT) uses an Annual Average Daily Traffic to one-hour capacity ratio (AADT/C) to determine the severity of congestion over a 24-hour period. AADT/C is the ratio of traffic volume to the physical capacity of the roadway. This is also known as the Average Congestion Ratio or ACR. Index values under this system range from one (little to no congestion) to 24 (theoretically, congestion over the entire 24-hour day). This congestion indicator enables the comparison of each highway's daily volume of traffic to a one-hour capacity. WSDOT has set the current LOS standard for I-405 in Kirkland at ACR 10.

The Washington State Transportation Commission adopted this congestion index measure (ACR) and established thresholds to identify "congested" highways at the index values of 10 for urban highways and six for rural highways. When compared to traditional peak hour measures, these thresholds approximate LOS D operation in urban areas and LOS C operation in rural areas. Highways which exceed these are identified as deficient. SR 908 is a Highway of Regional Significance. Adoption of LOS standards for highways of regional significance (HRS) followed a year-long process involving WSDOT and the region's cities and counties. WSDOT has set the level of service standard for SR 908 at E-mitigated.

Since 2003, a corridor study for the entire I-405 corridor has been underway. A programmatic EIS has been completed, with further analysis of the alternates occurring in 2004. The exact nature and timing of improvements to I-405 is contingent upon funding.

IX. Transportation

Table T-6: State Routes

State Route		PM Peak Hour Two-Way Traffic Volumes					WSDOT ACR-LOS		
		Roadway Capacity 2005/2022	Existing 2006 PM Peak Hour	Forecasted 2022 Traffic Volumes	Existing AADT	2022 AADT	Adopted LOS Standard	Existing 2005 V/C LOS	Future 2022 V/C LOS
I-405									
From	To								
NE 39th St.	NE 70th St.	15,000/19,000	14,260	19,423	199,870	271,635	10	13	14
NE 70th St.	NE 85th St.	15,000/19,000	13,550	18,975	189,680	265,366	10	13	14
NE 85th St.	NE 116th St.	15,000/19,000	13,820	18,944	192,660	264,940	10	13	14
NE 116th St.	NE 124th St.	15,000/19,000	10,136	15,705	141,749	219,641	10	9	12
NE 124th St.	NE 132nd St.	15,000/19,000	8,550	12,218	119,579	170,865	10	8	9
I-405 and NE 85th Street									
SB-405 Ramp	NB-405 Ramp	4,172	3,926	4,596	–	–	E-mitigated	0.94	1.10
NB-405 Ramp	120th Ave. NE	4,172	3,660	4,764	–	–	E-mitigated	0.88	1.14

Table T-7: Signalized State Route Intersections

Signalized State Route Intersections	PM Peak Hour Traffic Volumes		PM Peak Hour LOS			Planned Improvement Projects
	Existing 2007	Future 2022	Existing 2007	Future 2022	Corresponding Letter Grade LOS for 2022	
I-405						
116th Ave. NE/NB Ramp	2,295	3,017	0.92	1.35	F	None
NE 72nd Place/SB Ramp	2,195	2,880	0.89	1.22	F	HOV queue bypass
NE 116th St./NB Ramp	2,914	3,471	0.78	0.90	E	None
NE 124th St./NB Ramp	3,711	4,552	0.52	0.60	B	HOV queue bypass
NE 124th St./SB Ramp	4,396	4,878	0.68	0.74	C	HOV queue bypass
Totem Lake Blvd./120th Ave. NE	3,294	3,181	0.80	0.89	D	None

CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
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MEMORANDUM

To: Kurt Triplett, City Manager

From: David Godfrey, P.E., Transportation Engineering Manager
Ray Steiger, P.E., Public Works Director

Date: Presented in the November 20, 2012 Council Study Session Packet

Subject: Level of Service/Concurrency/Project selection

Over 10 years ago, the Transportation Commission was formed to grapple with the questions of concurrency and level of service. Although the scope of the Commission's work has broadened, the question of improving concurrency has remained on the Commission's work program for much of its history.

Most recently, the Commission has been working on three concurrency and level of service related items arising from the Transportation Conversations document presented to Council in June of 2010:

1. Review and revise concurrency system
2. Develop new level of service standards that align with transportation principles and further define what are those principles
3. Develop clear goals and prioritization systems for project categories

The Transportation Conversations document (Attachment 1) lays out the reasoning behind the need for addressing these issues in more detail. This memo summarizes Commission thinking that has been developed over more than 18 months of working on these questions. The Transportation Commission has agreed to a fairly clear plan of action for items 1 and 2. For item 3, the missing pieces have been identified, but filling in those pieces is not simple. Further, full development of item 1 requires a clear set of projects and completing item 3 is needed to develop that set of projects.

1. Review and revise concurrency system

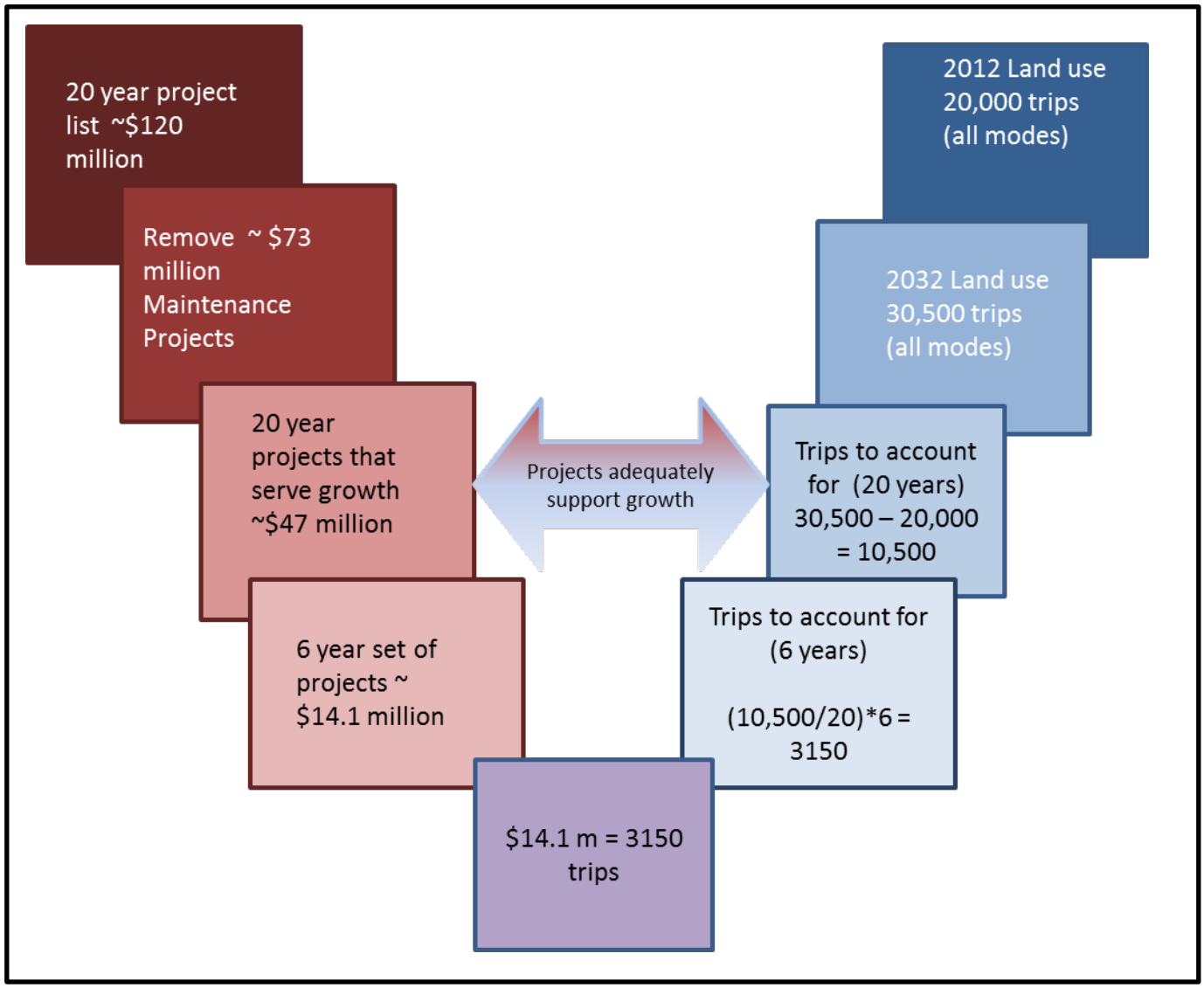
As recommended in Transportation Conversations, "Concurrency should be simplified and should consider transit, bicycling and walking…Concurrency should principally monitor the approved land use and transportation plans and insure that they are being completed in relative balance." Concurrency should help achieve land use and transportation goals, not be an impediment to achieving the goals. With its sole focus on auto capacity at traffic signals, the current concurrency

system does not help achieve the performance measures associated with a balanced transportation plan.

The Commission recommends adopting a concurrency system similar to the system in use by the City of Redmond. The City of Redmond has been successfully using their system for about 2 years. In this system, an agreed upon transportation project list that is fundable over the next 20 years is developed. This list does not include maintenance projects; only those projects that add capacity for any mode. Similarly, a land use plan for that same 20 year time period is identified.

The number of total new trips is assigned to be equal to the new capacity of the total project list. This translation between trips and projects means that the capacity (in trips) can be determined for a given list of projects, such as funded projects on the 6-year CIP.

Figure 1, Relationship between Trips and Transportation Projects



The number of total new PM peak person trips is assigned to be equal to the new capacity of the total project list as shown by the arrow in the chart above. This is an important concept because this is the point where the plans for land use and transportation are joined. Success requires having strong plans that are supported by the community. Concurrency will not decide whether or not development projects are "good" or "bad" only whether or not the number of new trips is being added at approximately the rate that capacity is being added. Furthermore, Concurrency will not decide whether or not the capacity being provided is the "right type" capacity. Again, this is decided when the transportation project list is determined and compared to the land use plan.

Equating trips and projects means that the capacity (in trips) can be determined for a given list of projects, such as funded projects on the following hypothetical 6-year CIP.

Table 1 Hypothetical 6 year funded list (excluding maintenance projects)

Project	Cost	New person trips
ITS project	$1,400,000	**312**
Road project 1	$1,100,000	245
Road project 2	$2,043,000	456
Ped project 1	$5,000,000	1115
Ped project 2	$400,000	89
Bike project 1	$1,210,000	270
Bike project 2	$470,000	105
Bike project 3	$2,500,000	558
TOTAL	$14,100,000	3150

Note that all project types in the Transportation Plan contribute to capacity. A concerned person might ask "Do you expect all that new growth to be handled by bike lanes?" That question should be answered earlier in the process, where the Land Use Plan and Transportation Plan are developed. These two plans have to be in balance with the balance representing level of service. Concurrency's role is to indicate whether or not the transportation facilities, regardless of their type, are being constructed at a rate approximately equal to the rate at which the land use plan is being fulfilled.

A ledger system can be set up, with a balance of trips "available" based on funded projects. As new land development projects are considered, the trips being proposed are compared to the trips available. If more trips are available than are being proposed by the new land development project, the project passes concurrency. If a project passes concurrency, it's future trips are subtracted from the balance. Trips are added to the balance when transportation projects are added to the funded CIP. This system requires that if concurrency is to be maintained, the 20-year project list needs to be implemented at a rate equal or faster than the rate of development.

If fewer trips are available than what are required by the development, the development can:

- construct transportation improvements that add trip capacity
- wait until more trip capacity is built by the City
- scale back the development scope so that it requires less trip capacity.

Table 2 Sample ledger system for Concurrency

Date	Item	Trips	Balance	Pass?
1/1	Start with 6 years of funded projects	+3150	3150	n/a
Throughout the year	Development 1 (10,000 sq. ft. retail; 100 units residential)	-124	3026	Yes
	Development 2 (200 units residential)	-109	2917	Yes
	Development 3 (Retail store expansion)	-65	2852	Yes
	Other projects (details omitted here) total	-200	2758	Yes
12/31	New CIP approved resulting in another year of funded projects	+525	3283	n/a

One of the advantages of this system is its simplicity. It's clear to developers, staff and the public how many trips are available for development at any given time. Because many land uses have standard trip rates associated with them, a table showing the number of trips a given size of development will contribute can be made. This allows anyone to understand the implications of a development to concurrency, and it streamlines the development review process.

Table 3 Sample Trip rates for various land uses		
Example Land use	**Unit**	**Trips**
Attached and stacked housing	Dwelling	0.56
Restaurant	1000 sq ft	7.49
Drive-in bank	1000 sq ft	45.74
Shopping Center	1000 sq ft	3.75
General Office Building	1000 sq ft	1.49
Supermarket	1000 sq ft	10.45

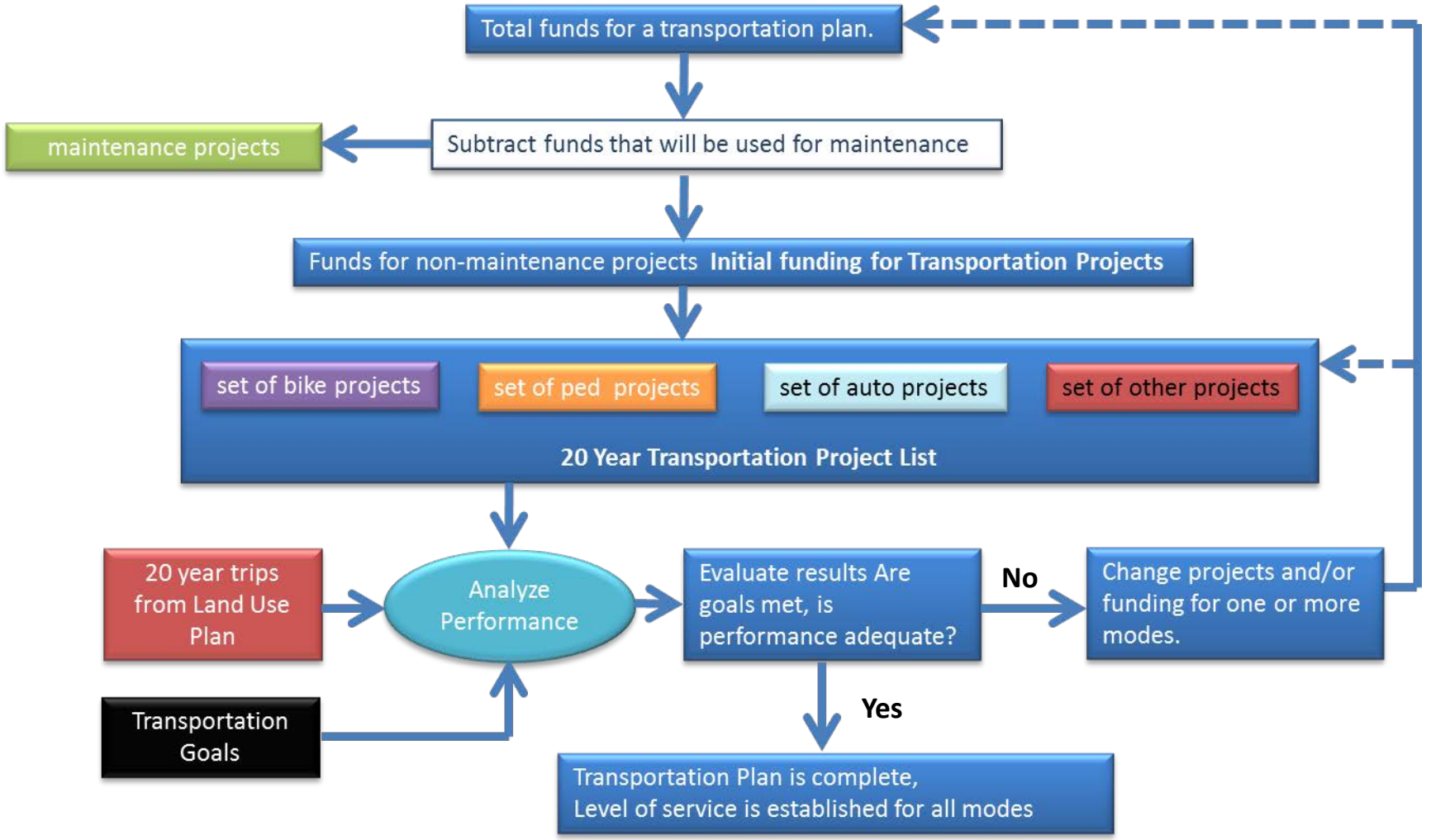
In contrast, the concurrency system we use today requires that, for each development, the number of trips that will go through each signalized intersection are estimated. Then, for each signal, a calculation is performed to determine the projected level of service at that signal. Finally, the performance of the signals is compared to the allowed level of service.

When concurrency is measured in this way – level of service at signalized intersections – only construction projects that add capacity at signalized intersections aid in meeting concurrency. It does not consider the full range of projects that should be in a transportation plan if that plan supports a balanced multi-modal transportation system. This is one reason why the Transportation Commission has recommended replacing the existing concurrency system.

2. Develop new level of service standards that align with transportation principles

As described above, Kirkland's current vehicular level of service standard measures the auto volume to capacity ratio at signalized intersections. The primary purpose of the existing level of service is for use in concurrency testing. With the concurrency system proposed in 1 above, a level of service is established for various modes when the capacity of the 20 year project list is set equal to the number of new trips to be added to the system over the same number of years. Level of service is used to decide whether or not the transportation system is adequate for the Land Use being proposed. The diagram below shows how, by using funding levels and performance goals for the transportation system, a set of projects can be developed. An iterative process is envisioned where performance and funding across modes is adjusted until a satisfactory transportation plan for these performance measures can be tracked annually to help monitor transportation system performance.

Figure 2. Setting Level of Service



3. Develop clear goals and prioritization systems for project categories

The Commission has explored this issue extensively in the context of developing a set of funded projects for the CIP. We looked at a framework for preparing a project list that suggests:

- Adopted Plan documents (e.g. Active Transportation Plan, ITS Plan) are based on adopted goals and performance measures.
- Projects enter into the CIP from adopted plans which contain clear prioritization methods and which can be used to develop project lists.
- As funding is available, prioritized lists of projects are completed. Level of service is used here to determine the types of projects that should receive funding.
- Evaluation of the system is based on adopted performance measures that come from the original goals. This evaluation drives new projects.

The table below shows, for different project types, where elements of the framework are missing (blank squares) and where they exist.

Table 4 Project types across a framework for project development non-maintenance

Project type	High level goals	Specific plan document	Prioritization methods	Funding	Evaluation
ITS	Council adopted Performance measure	ITS Plan	Priorities in plan	Grant funding has been the source of ITS funding	Performance measure
Bicycle network	Council adopted Performance measure	Active Transportation Plan describes a network			
Sidewalk construction		Active Transportation Plan establishes goals	Method in Active Transportation Plan and existing project selection method		
Crosswalk upgrades				Funding has been traditionally $35k/yr	
Auto network improvements	Comprehensive Plan sets traffic signal levels of service		Projects that are needed to meet concurrency		
School walk routes	Council adopted Performance measure for completion			Typically grant funded	

Table 5 Project types across a framework for project development Maintenance

Project type	High level goals	Specific plan document	Prioritization methods	Funding	Evaluation
Pavement maintenance	Council adopted Performance measure		Pavement maintenance software	Set in coordination with PCI goal	Measure PCI
Pavement marking Maintenance				Funding has been traditionally $250k/yr	
Traffic signal maintenance					
Sidewalk maintenance				Funding has been traditionally $200k/yr	

Although a complete or practically complete system exists for some project types, for example pavement maintenance, there are several key missing pieces in the city's current methods.

In order to fill in the missing pieces, the Commission recommends preparation of a comprehensive multimodal transportation plan that describes how all elements of the transportation system fit together under over-arching goals. Without clear, complete, integrated goals, it is difficult to develop a comprehensive set of prioritization methods. Without prioritization methods, project lists can't be developed in a straightforward manner. Without project lists it is difficult to determine where to best spend limited resources and identify critical funding gaps. It's worth noting that the City of Kirkland has never developed a multimodal Transportation Plan.

One helpful step in the process of filling in the table above was the Council's development of Performance measures (Figure 3) Unfortunately, given historic CIP funding, and the costs of the projects necessary to meet the measures, it is not possible to achieve all the measures simultaneously. Looking at a range of transportation projects under one plan will help alleviate this problem.

An update of the City's Comprehensive Plan is scheduled to begin in 2013. A Transportation Master Plan could potentially also serve as the Transportation Element of the revised Comprehensive Plan. The Comprehensive Plan update would also require an updating of the City's land use and transportation network.

Recommendation

The Commission recommends:

- Council affirm the direction proposed for the concurrency and Level of service systems. If the Council supports the proposal, the Transportation Commission would meet with the Planning Commission to hear their concerns and comments. Developing a complete Concurrency System requires a clear future land use plan and a companion list of transportation projects. The City's Comprehensive Plan update requires a revised land use plan and so will give the opportunity to supply the needed land use information.

- Funding for a transportation master plan be considered in the 2013-2014 budget process. A transportation master plan will allow missing gaps in project development system to be filled. Therefore such a plan would be an ideal opportunity to establish a transportation plan that reflects the needs of the new neighborhoods.

Figure 3 Performance measures for balanced transportation:

MEASURE	2008	2009	2010	2011	Target
Percent of Capital Improvement Program Transportation funding devoted to Active Transportation	*17.65%*	*28.76%*	*34.48%*	*21%*	*33%*
Percent of proposed Intelligent Transportation Systems projects completed	*	*	*4%*	*6%*	*100% of ITS Strategic Plan*
Complete sidewalk construction on at least one side of all school walk routes	*78.6%*	*	*81.1%*	*83%*	*100% by 2019*
Percent of bicycle network construction improvement projects completed	*	*	*50%*	*50%*	*100% by 2018*
Percentage of arterials that are complete streets	*	*	*58%*	*58%*	*100%*
Residents surveyed are satisfied with maintenance of active transportation facilities[1]	*83%*	**	*84%*	**	*90%*
Automobile crashes involving bikes	*12*	*8*	*17*	*14*	*0*
Automobile crashes involving pedestrians	*15*	*13*	*16*	*20*	*0*
Percent of total trips using active transportation mode (transit, pedestrian, bicycle)	***	***	***	***	*35% of trips in transit/other mode by 2022*
Major arterial travel times	***	***	***	***	***

[1] Active Transportation Facilities include sidewalks, bike lanes, pedestrian flags, in-pavement lights, etc
*No data available
**Community Survey occurs in even years
***Measure being refined for future reports
****2011 data excludes needs in annexation area. Assessment of need will take place in 2012.

Attachment 1: Transportation Comversations

DRAFT GOALS AND POLICIES **Attachment 3**

OVERVIEW

Livable, vibrant cities like Kirkland offer safe, accessible, well maintained and fully connected alternatives for getting people where they need to go. Because of their safety and approachability, interconnected walking and biking networks offer everyone options for all kinds of trips. Transit is viewed as a viable choice; by focusing frequent service on main streets it is efficient, easy to understand and connects popular destinations. Congestion is heavy during some of the day, because many people drive on a network where efficient operation is favored over expansion. Efficient deliveries are prioritized to support economic development.

Land use and transportation visions are inextricably linked. Auto oriented big-box retail doesn't work in a tightly gridded network of narrow streets and a mixed use "urban village" can't be successful amongst super blocks of six lane arterials. Economic development is nurtured a careful Land Use-Transportation balance. This plan tailors a transportation network to a land use vision and the companion land use plan is based on realistic transportation expectations.

Sustainability is a multi-dimensional concept. It refers to transportation practices that value the health of the environment, but it also encompasses fiscal restraint, sound maintenance, and equitable accessibility for all.

Transit providers and the Washington State Department of Transportation immediately come to mind as important partners in implementing Kirkland's Transportation Plan. In order for the Plan's goals to be fully recognized however, entities such as schools, neighboring cities, regional groups and the private sector must also be considered partners.

Measurement and reporting of progress to accomplishing goals, policies and actions is critical to ensuring that the plan is well understood and effective. A revised concurrency system offers a simpler more multimodal approach to balancing land use changes and network development.

GOALS

1. ***Get people where they need to go***

   1.1 Walking *- Form a safe network of sidewalks, trails and crosswalks where walking is comfortable and the first choice for many trips.*

1.2 Biking *– Interconnect bicycle facilities that are safe, nearby, easy to use and popular for people of all ages and abilities.*

1.3 Public Transportation *- Support and promote a transit system that is viable and realistic for many trips.*

1.4 Motor Vehicles *- Efficiently and safely provide for vehicular circulation recognizing congestion is present during parts of most days.*

2. ***Link to Land Use -*** *Create a transportation system that is united with Kirkland's land use plan.*
3. ***Be Sustainable –*** *As the transportation system is planned, built and maintained, provide mobility for all using reasonably assured revenue sources while minimizing environmental impacts.*
4. ***Be an Active Partner -*** *Coordinate with a broad range of groups to help meet Kirkland's transportation Goals.*
5. ***Transportation Measurement -*** *Measure and report on progress toward achieving goals and actions.*

Get people where they want to go

With the expressed purpose of moving people, goods, and services, the City's transportation decisions will generally reflect a hierarchy of modes:

1. Walking
2. Biking
3. Transit
4. Motor vehicles

This hierarchy is intended to help ensure that the needs of each group of users is considered in the City's planning process. This approach does not mean that users at the top of the hierarchy will always receive the most beneficial treatment on every street. It is not possible to provide ideal accomodations for every mode in every location. However, this hierarchy does indicate that when lower hierarchy modes are prioritized, the underlying reasons for this approach will be shared and the city will make special efforts to provide reasonable alternative accommodations such as parallel routes.

WALKING

Goal T-1.1 - Form a safe network of sidewalks, trails and crosswalks where walking is comfortable and the first choice for many trips.

Background

Walking supports a livable community through increased interpersonal interaction, commerce, and health. Pedestrians, including those who use wheelchairs or other mobility aids, take first priority on Kirkland's transportation network because every traveler is a pedestrian at some stage of their trip, regardless of travel mode.

Walking has long been a cornerstone of the transportation system in Kirkland as evidenced by the creation of lakefront walkways, use of innovative crossing treatments and, most recently, through the purchase of the Cross Kirkland Corridor. Because of an emphasis on walking facilities around schools improvements have been made at almost every school in Kirkland during the past few years.

Despite these efforts there is more to be done. I-405 is a barrier to pedestrians, too many busy streets do not have sidewalks, crosswalks need upgrades and there are still areas around schools, parks and commercial areas that need improvements. Better lighting, separation from traffic, wayfinding, and facilities to help those who rely on curb ramps and other aids are also areas where improvement is needed.

Focusing on what makes a great walking environment –accessibility, safety, comfort, clarity, completeness -and applying these throughout Kirkland are the aim of this plan. Two places in particular, the shores of Lake Washington and the Cross Kirkland Corridor offer the opportunity to create places that are both transportation facilities and spaces that offer truly remarkable experiences.

Draft Policies

- Measure and improve the safety of walking in Kirkland.
- Make getting around Kirkland on foot intuitive.
- Prioritize sidewalk construction in a manner that supports other goals in the Plan
- Develop world-class walking facilities along the Cross Kirkland Corridor and the shore of Lake Washington with ample connections to the rest of Kirkland
- Identify and remove barriers to walking
- Make it safer and easier to walk to school
- Improve street crossings
- Focus on regional transportation as a key destination for walking

BICYCLING

Goal T-1.2 Interconnect bicycle facilities that are safe, nearby, easy to use and popular with people of all ages and abilities.

Background

This plan aims to make bicycling available to more people in Kirkland. Like walking, bicycling is a clean, healthy and efficient way to make many trips in a livable city. When combined with transit, trips of regional scope can be made easily. Today, many Kirkland residents would like to make more trips by bicycle, but find the current network of on-street bicycle lanes unfriendly. In order to unlock the potential of bicycling, the existing network of on-street bicycle lanes should be improved and supplemented by facilities that people of all ages and abilities find safe and welcoming.

Cities around the globe, including Portland OR and Vancouver BC have documented the relationship between more facilities and safety. When top notch facilities are available, bicycle ridership increases and safety (for all vehicles) improves. This leads to more ridership, support for more facilities and further safety improvements.

For bicycling to be a viable for a wide variety of people making a wide variety of trips, bicycle parking must be widespread and plentiful, not just at commercial locations but at parks and transit facilities. Signing and marking for the bicycle network should be applied generously but in a way that fits with the surrounding neighborhood. Routes need to be supported by carefully chosen wayfinding that is integrated with that of neighboring cities.

Draft Policies

- Create and improve on-street bike facilities .
- Build a network of greenways
- Support facilities that make cycling easier
- Make it easy to navigate the bicycle network
- Measure bicycle use and safety
- Make the Cross Kirkland Corridor an integral part of the bicycle network and connect it to the region

PUBLIC TRANSPORTATION

Goal T-1.3 Support and promote a transit system that is recognized as viable and realistic for many trips.

Background

Historically, transit in Kirkland focused on connections to Seattle oriented to Seattle in the morning and from Seattle in the afternoon. Bus frequencies were sometimes 1 hour especially in off-peak periods. Today, Kirkland is served by a number of routes connecting to a variety of Eastside destinations as well as Seattle. Frequency on some routes is 15 minutes, with most service at 30 minute intervals over most of the system.

Transit with the right characteristics can make an important contribution to Kirkland's transportation system. At its best, transit is

- Fast – making long trips competitive with driving
- Frequent – frequencies of 15 minutes or less with service hours extending from early morning to late night
- Reliable – trip times are consistent from day-to-day and riders trust they'll arrive on time
- Accessible – facilities and vehicles are designed for all users.
- Comfortable – all elements of the system are sized to meet demand and offer amenities that make trips pleasant.

- Complete – popular destinations are served and transfers between routes are easy and clear

Transit providers will continue to be faced with limited resources for maintaining existing service hours let alone adding new service. This, combined with the characteristics above, suggest that . Kirkland's transit needs will best be served by a focused network of higher frequency service near major concentrations of residential and commercial land uses.

This plan challenges the idea that because Kirkland does not provide Transit service, it has little effect on the quality of that service. Because transit more than any other mode is dependent on land use for success, Kirkland's land use choices will have an important influence on where transit service is deployed. Additionally, Kirkland can make improvements to waiting areas such as improved lighting, more shelters and clearer wayfinding. Favorable parking policy and projects that increase transit speed and frequency are other ways that Kirkland can support good transit.

In the next 20 years, Sound Transit will have a greater service presence in Kirkland. This is likely to come in the form of bus rapid transit and Link light rail, both of which will connect to the Totem Lake Urban Center. Transit has been assumed throughout the planning of the Cross Kirkland Corridor and is an important priority for Kirkland. Regardless of where Sound Transit provides service, walking, biking and local transit connections to the regional transit system are paramount.

Other modes of public transportation such as taxis and ridesharing can help fill gaps when residents have mobility needs that traditional public transit cannot serve. Also, Kirkland should consider other forms of service provision such as partnering with the private sector, human service agencies and aggressive adoption of new technology that make sharing rides easier.

Draft Policies

- Create an environment for frequent and reliable service on arterials.
- Support safe and comfortable passenger facilities.
- Integrate transit facilities with pedestrian and bicycle networks.
- Support ridesharing for trips around and through Kirkland.
- Pursue transit on the CKC
- Partner with transit providers to coordinate land use and transit service (see coordination)
- Work with Sound Transit to incorporate ST3 investments in Kirkland.

MOTOR VEHICLES

Goal T-1.4 Efficiently and safely provide for vehicular circulation recognizing congestion is present during parts of most days.

Background

Many Kirkland residents travel by private automobile for a high proportion of their trips. In the peak period there is considerable congestion at many intersections. Both of these phenomena are expected to continue over the next 20 years. At the same time, trends such as decreased motor vehicle ownership, decreased vehicle miles of travel and the increased age at which young people obtain their driver's licenses mark fundamental change from the past 50 years.

Over 20 years ago Kirkland recognized that wide ranging automobile capacity improvements in an attempt to entirely eliminate congestion are neither in keeping with Kirkland's desired urban form nor are they financially sustainable. Because the sole measure of level of service was performance of motor vehicles at signalized intersections, fulfilment of the land use vision may have suffered in favor of providing capacity for motor vehicles.

This plan seeks to maximize the operational efficiency and safety of the existing road network rather than look primarily to expansion. Intelligent Transportation Systems (ITS) will play a role in this, but so will the aggressive promotion of technologies. Autonomous vehicles, or vehicles that can change speeds in relationship to the vehicles around them in order to maximize safety and flow are examples of this. Businesses continue to rely on motor vehicles for deliveries and other needs critical to their operations and these needs must be served.

Totem Lake was developed around the assumption that people are traveling mainly by automobile. The future Land Use vision for Totem Lake is completely different. In order to support this new vision and associated economic development, a finer grid of smaller scale streets and new connections will be needed.

Parking policy is an important factor in determining how vehicles will be used in Kirkland. Totem Lake and Downtown are areas where active refinement of parking policy will continue to be needed. More uniform implementation of a broad set of Transportation Demand Management strategies can be used to make easier to drive less.

I-405 and SR 520 are important travel arteries for Kirkland are under the jurisdiction of the Washington State Department of Transportation. New and revised interchanges will be needed to better fit Kirkland's Transportation and Land Use goals. Operating policies such as tolling and HOT lanes have promising benefits but also have potential downsides for Kirkland that require careful monitoring.

Motor vehicles can have negative impacts on neighborhood streets, where higher speeds and volumes need mitigation to improve livability.

Draft Policies

- Make limited, strategic investments in intersections and street capacity to support existing and proposed land use.
- Use Intelligent Transportation Systems (ITS) to support optimization of roadway network operations.
- Position Kirkland to respond to technological innovations, such as electric vehicles and driverless cars
- Take an active approach to managing on-street and off-street parking.
- Work with WSDOT to improve the way I-405 and SR 520 meet Kirkland's needs. (see coordination)
- Reduce crash rates for motor vehicles.
- Mitigate impacts of motor vehicles on neighborhood streets

Link to Land Use -

Goal T-2 Create a transportation system that is united with Kirkland's land use plan.

Background

The Land Use chapter of the Comprehensive Plan provides a blueprint to which Kirkland's transportation network responds. "Transportation improvements" should truly be improvements to the community that helps creates place and reflects the character of Kirkland, not just about mobility. Because the built environment influences travel behavior in so many ways, it's often said that the best transportation plan is a good land use plan. This is demonstrated by the land use transportation connections illustrated in the smart growth Ds:

- **Density:** dwellings, jobs per acre. Higher densities shorten trip lengths, allow for more walking and biking, and support quality transit.
- **Diversity:** mix of housing, jobs, retail. A diverse neighborhood allows for easier trip linking and shortens distances between trips. It also promotes higher levels of walking and biking and allows for shared parking.
- **Design:** connectivity, walkability. Good design improves connectivity, encourages walking and biking, and reduces travel distance.
- **Destinations:** regional accessibility. Destination accessibility links travel purposes, shortens trips, and offers transportation options.
- **Distance to Transit:** Close proximity to transit encourages its use, along with trip-linking and walking, and often creates accessible walking environments.

- **Development Scale:** residents, jobs. Appropriate development scale provides critical mass, increases local opportunities, and supports transit investment.

The Land Use-Transportation Connection is not one way. For example increased density should be supported by an emphasis on transit, but at the same time, increased density should be planned in areas that are easy to serve by transit.

As the Totem Lake Urban Center transitions from an auto oriented district to one that relies on a range of modes to support increased density, but in particular transit, improved access to transit hubs by walking and bicycling access should be a focus.

In neighborhoods where larger areas of single family residences make it difficult to support high quality transit nearby, greenways, on-street bike lanes and sidewalks will offer options that help support a more livable community. Connections should focus on schools, parks and neighborhood areas.

For employers in Kirkland to be competitive with those in other cities, they must be able to get their employees to job sites quickly and easily.

Draft Policies

- Create a transportation network that supports economic development goals.
- Develop transportation improvements tailored to commercial land use districts such as Totem Lake, Downtown and neighborhood business areas.
- Focus transportation system developments around schools, transit routes, and Kirkland's key commercial areas.
- Adopt requirements and practices for all future development that support planned transportation infrastructure.

Be Sustainable

Goal T-3 As the transportation system is planned, built and maintained, provide mobility for all using reasonably assured revenue sources while minimizing environmental impacts.

Background

If the transportation system is sustainable, its condition is stable or improving over time. Kirkland faces challenges related to both fiscal and environmental sustainability.

Because roughly half of greenhouse gasses are transportation related, it is impossible to forward adopted climate change goals without changing the way we travel. Electric vehicles may be one way that technology can help meet this challenge. Transportation is also the primary contributor to water and air pollution. It is increasingly being recognized that active transportation like walking and bicycling can play important roles in promoting health in a community.

Maintaining what we have in good condition is a sound principal. New funding methods must be brought to bear if Kirkland is to continue to maintain transportation facilities at a high level. Kirkland's residents have continued to show support for maintenance efforts by passing a Street Levy in 2012. The bulk of the funding from the levy goes toward pavement maintenance. There are a number of other systems – sidewalks, traffic signals, lighting systems, that do not have robust maintenance programs and this plan proposes remedying that shortcoming.

Sustainability also encompasses social impacts of transportation. The transportation system should be accessible and provide benefit to all users throughout Kirkland regardless of mobility, vision, hearing and cognitive impairments.

Draft Policies

- Balance overall public capital expenditures and revenues for transportation.
- Ensure that the transportation network can be developed, maintained, and operated within expected revenues for the foreseeable future.
- Place highest priority for funding on reasonable maintenance of existing infrastructure rather construction of new facilities.
- Identify and perform needed maintenance to maximize the useful lifetime of the transportation network at optimum lifecycle cost.
- Minimize the contribution of transportation to air and water pollution.
- Create an equitable system that provides mobility for all users.
- Actively pursue grant funding and innovative funding sources

Be an active Partner

Goal T-4 Coordinate with a broad range of groups to help meet Kirkland's transportation Goals.

Background

Traffic doesn't stop at city borders. Cars, buses, and bicycles all travel between cities. Kirkland is bisected by I-405, a facility which is the responsibility of the WSDOT. Transit service is provided by King County Metro and Sound Transit both of which are governed by separate boards of elected officials. Regional policy determines, to a large extent, the minimum number of person trips that Kirkland must plan for. For all these reasons, working with other agencies is a requirement for achieving Kirkland's transportation goals. This section of the plan should make clear statements about positions on regional issues that can guide action in the future.

Kirkland must be proactive in its work with regional partners. Kirkland should come to other partners with a strong sense of our needs rather than reacting to what is offered by others. An example of this can be seen in the work of our City Council and State Legislature, where recent sessions of the have resulted in securing important funding for the Cross Kirkland Corridor.

At the county wide and regional level, there are an number of groups that influence funding decisions and transportation policy. Staff groups make recommendation to boards of elected officials. Kirkland should have an active role in these groups.

Partnerships should not end with the obvious transportation agencies. Partnering with the private sector, schools, advocacy groups and neighboring cities will each help achieve Kirkland's transportation goals.

Draft Policies

- Play a major role in development of Sound Transit facilities in Kirkland
- Establish commitments from transit providers by Kirkland for density and improvements in exchange for high quality transit service.
- Work with WSDOT to achieve mutually beneficial decisions on freeway interchanges and other facilities.
- Participate in and provide leadership for regional transportation decision making.
- Work closely with the Lake Washington School District to get more children using active transportation to travel to school.

- Coordinate multi-modal transportation systems with neighboring jurisidictions.
- Partner with the public sector and other "new" partners.

Transportation Measurement

Goal T-5 Measure and report on progress toward achieving goals and actions.

Background

For several years the transportation Commission and Council have contemplated a revised concurrency system that relieves some of the deficiencies of the existing system. The new system would be more multi-modal and easier to understand for all the stakeholders. Council approved the outline for such a system in 2012.

Progress toward the goals of this plan should be reported annually. This would consist of a few measures that give an overall sense of the City's transportation system. Reports should be widely distributed and should be based on meaningful measures that are easy to interpret and that are compelling to those using them

The plan should include an implementation section that is carefully thought out in order that it is viable and has support from the community, the Council and the Transportation Commission.

Draft Policies

- Establish a multi-modal plan based concurrency method
- Develop an action plan for plan implementation
- Deliver annual transportation report cards

We recognize the well thought out, clear and compelling structure and wording of the Transportation 2040 plan from City of Vancouver, BC from which we have borrowed heavily, at times verbatim.

TRANSPORTATION CONVERSATIONS

PERSPECTIVES ON KIRKLAND'S TRANSPORTATION POLICY

Move People
Be Sustainable
Be an Active Partner
Link to Land Use

City of Kirkland Transportation Commission

JUNE 2010

This document was prepared by the City of Kirkland Transportation Commission and endorsed by the City Council

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The Commission wishes to acknowledge former Commissioner and Chair Jon Pascal. His vision, inspiration and leadership helped create this document.

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Cover photo credits Clockwise from upper left: Juanita Drive, City of Kirkland; Eastside Rail Corridor, Georgine Foster; Totem Lake Area 1936, 2007, King County; www.pedbikeimages.org Dan Burden
Modern style, Paper colors, median font

INTRODUCTION

This document began as a tool to organize thinking around Kirkland's transportation policy. Kirkland is making progress in many areas of transportation, but principles underlying the different programs have not been enunciated. The Transportation Commission felt that the alignment illustrated in Figure 1 was missing --Kirkland's transportation vision wasn't clear and project priorities, policies and programs didn't flow logically. Securing agreement on principles that guide decision making is an important factor in achieving alignment of these elements. At a retreat in the spring of 2009, the Commission first developed these four principles.

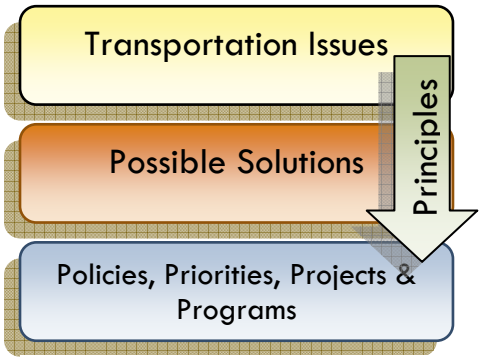


Figure 1 Consistent principles help align issues with possible solutions.

- Move People
- Be Sustainable
- Create Partnerships
- Link to land use

Often, the Transportation Commission is asked to recommend positions on issues for the City Council. Using the principles as a guide will help to give the Commission a uniform way of considering issues, and will also help ensure that the Commission's recommendations are grounded in principles that are supported by the Council and the Community (see Figure 2 Selected City of Kirkland City Council Goals. The principles identified in this document are closely aligned with these Council Goals. As the City's Comprehensive Plan undergoes a major update in 2011,

SELECTED CITY OF KIRKLAND CITY COUNCIL GOALS
(updated September 2009)

FINANCIAL STABILITY *Citizens of Kirkland enjoy high-quality services that meet the community's priorities.*
Council Goal: Provide a sustainable level of core services that are funded from predictable revenue.

BALANCED TRANSPORTATION *Kirkland values an integrated multi-modal system of transportation choices.*
Council Goal: To reduce reliance on single occupancy vehicles.

DEPENDABLE INFRASTRUCTURE *Kirkland has a well-maintained and sustainable infrastructure that meets the functional needs of the community.*
Council Goal: To maintain levels of service commensurate with growing community requirements at optimum life-cycle costs.

ENVIRONMENT *We are committed to the protection of the natural environment through an integrated natural resource management system.*
Council Goal: To protect our natural environment for current residents and future generations.

Figure 2 Selected City of Kirkland City Council Goals. The principles identified in this document are closely aligned with these Council Goals.

revisions to the Transportation Element of the Comprehensive Plan should rest on a foundation of the principles.

During the first months of 2010, the Commission discussed the principles with the Community. Based on those discussions, the principles were refined and then applied to three important transportation issues. Specific recommendations for each issue, developed by the Commission, and based on the principles are presented in the next part of the document. These recommendations are in the form of work items for the Commission or policy goals to be adopted by City Council.

THE PRINCIPLES

MOVE PEOPLE

SUPPORT A TRANSPORTATION SYSTEM, AND RELATED GOVERNMENT AND PRIVATE ACTIONS THAT PROMOTE ALL VIABLE FORMS OF TRANSPORTATION.

For more than 70 years, Kirkland's transportation system has been focused on moving cars. The principle of Moving People requires development of facilities and programs that support not only cars but travel by bicycle, transit and walking to move people where they want to go. The movement of people includes people who are moving in support of commerce, moving goods, freight and providing services. Moving cars has been the organizing concept for transportation during the past 70 years, but today people are seeking alternatives.

Figure 3 Juanita Drive is a complete street, with facilities for bicycles, pedestrians and cars.

Instead of considering how *people* can move around Kirkland, the city's transportation policy decisions have been based mainly on building and supporting infrastructure for *automobiles*. Level of service standards in our Comprehensive Plan that *require* transportation projects to be built consider only automobiles. Fees paid by developers to mitigate the transportation impacts of their developments can be spent only on projects that provide capacity for cars. Capital project spending is not currently balanced across modes; only a small fraction directly benefits cyclists and pedestrians.

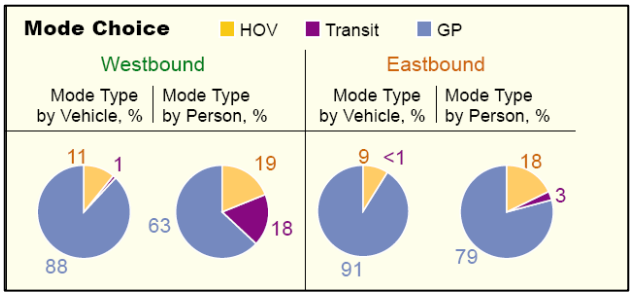


Figure 4 Mode split by vehicle trips and person trips, SR 520 bridge, AM period. In the westbound direction, transit carries 18% of the person trips in 1% of the vehicles. Source: WSDOT

Except for a few missing segments, Kirkland's street system is fully developed for auto travel. In order to have a complete transportation system however, the street system has to be complemented by additional facilities for other modes, such as the following:

- Facilities identified in the Active Transportation Plan[1] including bicycle lanes, trails and sidewalks
- Actions that allow buses to have increased speed and on-time performance
- Implementing Intelligent Transportation Systems[2] to operate the existing transportation system more efficiently
- Consideration of possible long-term availability of convenient rail access to our citizens

[1] *More People, More Places, More Often* the City of Kirkland Active Transportation Plan is available on the City website www.ci.kikland.wa.us

[2] Intelligent Transportation Systems are the application of information and communications technology to transportation. Video cameras that relay information to travelers, remote operation of traffic signal systems, interconnection of traffic signals are all examples of ITS.

BE SUSTAINABLE

SUPPORT A TRANSPORTATION SYSTEM THAT CAN BE SUSTAINED OVER THE NEXT 50 YEARS. ACT TO ASSURE A TRANSPORTATION SYSTEM THAT:

- ***WILL BE PLANNED, DESIGNED, BUILT, OPERATED AND MAINTAINED USING REASONABLY ASSURED REVENUE SOURCES***
- ***MINIMIZES OVERALL ENVIRONMENTAL IMPACTS.***

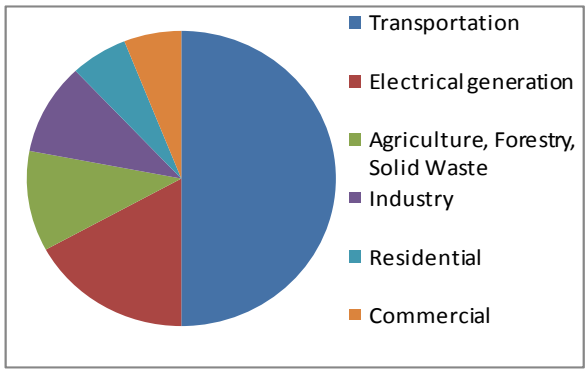


Figure 5 Relative contributions of various sources to greenhouse gas emissions, 2002. Source: Puget Sound Clean Air Agency.

If the transportation system is sustainable, its condition is stable or improving over time. Kirkland faces challenges in both sustainability areas. Because approximately 50% of greenhouse gasses are transportation related, (Figure 5) it will be impossible to meet the Council's and State's adopted climate change goals without changing the way we travel. Transportation is also the primary contributor to water and air pollution. Fiscally, even if all the current capital budget were spent on pavement preservation, it's likely that current maintenance standards could not be met. This is without funding the construction of other types of projects, like development of ITS and preservation of other transportation infrastructure. New funding methods and alternate transportation configurations must figure in our future transportation solutions if Kirkland is to move toward sustainability.

BE AN ACTIVE PARTNER

ACTIVELY BUILD AND MAINTAIN PARTNERSHIPS LOCALLY, REGIONALLY AND NATIONALLY, TO FURTHER OUR TRANSPORTATION GOALS.

A shared vision is vital to accomplishing transportation goals and leveraging resources. Partnerships must be created locally –between neighborhoods, businesses and others; as well as regionally –among Kirkland, other cities and transportation agencies like Metro, Sound Transit and the Washington State Department of Transportation (WSDOT).

In order to be successful, a renewed vision for transportation policy has to have support from stakeholders. At the same time, once agreement on a course of action is achieved, implementation must follow. The City of Kirkland has a sterling reputation for involving local stakeholders in decision making. However, too many times in the past plans have been adopted only to unravel during implementation when criticism from a few undermines previous resolve. Recent struggles around downtown land use decisions exemplify this problem. Traffic doesn't stop at city borders. Cars, buses, bicycles and pedestrians all travel within and between cities.

Kirkland is bisected by I-405, which is the responsibility of the WSDOT. Transit service is provided by King County Metro and Sound Transit both of which are governed by separate boards. Regional policy determines, to a large extent, the minimum number of person trips that Kirkland must plan for. For all these reasons, working with other agencies is a requirement for achieving Kirkland's transportation goals. Kirkland must be proactive in its work with regional partners. Kirkland should come to other partners with a strong sense of our needs rather than reacting to what is offered by others.

LINK TO LAND USE

ENSURE CONSISTENCY BETWEEN LAND USE AND TRANSPORTATION PLANNING AND IMPLEMENTATION.

Transportation networks are often designed to support certain land use patterns. At the same time, transportation facilities can alter and influence land use patterns. Land use and transportation plans must be developed with consideration of effects each has on the other.

The interchange at I-405 and NE 124th Street has been reconstructed several times since it was first built. In 1936 (see Figure 6) the area was rural. A modest interchange supported the semi-rural land of the mid 1960's. However, the fact that there was an interchange at all presented an opportunity to intensify the land use. As the land use changes increased, more capacity was added to the interchange which in turn supported more land use growth.

System performance is a result of land use and transportation (Figure 7). The intersection of land use and

Figure 6 The I-405 NE 124th Street area 1936 (left) and 2007 (right). Land use and transportation changes combined to transform the area. Source: King County

transportation network takes place most fundamentally in Kirkland's Comprehensive Plan where the Land Use and Transportation Plans reside. Discussions about the implications of land use and transportation often take place during development review where the impacts of development are quantified and mitigations are proposed.

Figure 7 Transportation system performance is as much a function of land use as it is of facilities and programs.

Transportation plans need to be support/respond to the City's land use vision. That vision will not be realized without a transportation plan that supports it.

ISSUES

The Commission selected three issues to examine in more detail. These issues are relevant, timely and offer opportunities for progress. Taken together, they span Kirkland's transportation spectrum and touch the life of every Kirkland citizen. Each issue is examined in the context of the principles identified above.

Development Review. New developments cause impacts on the transportation system. Development review is the process by which city staff reviews those impacts and prescribes mitigating measures. Elements of development review include Transportation Impact Analysis, concurrency, State Environmental Policy Act (SEPA) and impact fees. In 2008, the Commission proposed several ideas for improvements to concurrency but was not able to achieve adequate consensus to move forward. Several other aspects of development review are in need of improvement. Development review has important influences on both project funding and land use decisions.

Funding. Project funding and prioritization has not been comprehensively looked at for 10 years. Ensuring the adequacy of capital funding and its proper allocation is the most important challenge facing Kirkland's transportation system.

Pollution, climate change and public health. Increasing attention is being paid to the role of transportation in climate change and in public health issues such as obesity. Automobiles are important contributors to air and water pollution. Kirkland has not yet comprehensively examined this relationship. The following table shows how the three issues fit within the framework of the principles

TABLE 1 ISSUES AND PRINCIPLES

Issue → / **Principle ↓**		**Development Review**	**Funding**	**Climate change/public health/pollution**
Move People		Analysis and mitigation currently focus on moving motor vehicles. This needs to change in order to give equal or greater weight to other modes.	Clear funding levels and priorities have not been identified across all kinds of projects. Most funding goes to projects focused on moving cars.	How people move will determine impacts on climate change, health and pollution.
Be Sustainable	fiscal	Fiscal sustainability will have to address concurrency because funding projects to meet concurrency account for a large portion of the capital budget costs.	Funding of transportation is not tied to sustainability goals.	Fiscal sustainability will require changing transportation pricing to account for the costs of climate change, pollution and public health impacts.
	environment	Environmental sustainability is not currently part of the development review process.	Choices of funding mechanisms can impact vehicle miles of travel and green house gas production.	Environmental sustainability is directly impacted through this issue.
Create Partnerships		Changing development review practices requires acceptance from a number of internal and external stakeholders.	Funding priorities and funding levels will require agreement from many groups.	Kirkland cannot meet its goals on its own and requires state and regional partners.
Link to Land Use		Development review is intended to coordinate land use choices and transportation facilities.	Land use decisions affect the need for transportation facilities and services and influence funding priorities.	Combining land use and transportation choices is central to this issues and can significantly impact quality of life in Kirkland.

DEVELOPMENT REVIEW

Background

Concurrency is a requirement of the Growth Management Act adopted by the State Legislature in 1990. It is based on the notion that any land use growth should be supported by transportation facilities available so that appropriate levels of service are preserved. If growth in development outpaces the ability of the transportation system to accommodate the growth, development must stop. Theoretically, this will allow time for more transportation system improvements to be made and the level of service to improve at which time development may resume.

Impact Fees are levied on developers to help pay for capital projects necessary to meet levels of service. Impact fee rates are based on the total cost of the network necessary to provide a given future level of service divided by the number of future trips.

SEPA Analysis looks for impacts from development projects and prescribes mitigation. SEPA analysis looks at project level impacts not covered by the system wide concurrency analysis, such as how project driveways access streets or the development's impact on safety.

Traffic Impact Analysis is the report which must be submitted by a developer to the city and which shows the calculations necessary for calculation of concurrency, SEPA and impact fees. It contains certain tests to make sure that large impacts to intersections are mitigated. In practice, current procedures require improvements for only the biggest developments.

Concerns

- **The role of development review is misunderstood.** *Stopping "too much growth or "wrong projects" or even promoting good growth are not the functions of development review.* <u>These are the roles of carefully developed and broadly supported land use and transportation plans.</u> *Concurrency is sometimes mischaracterized as a tool for solving congestion problems.* One of the major roadblocks to improving concurrency has been the lack of a shared understanding of concurrency's role in the development process and lack of a shared transportation vision for Kirkland. *Development review's effects are often overemphasized.* Development review's power is limited because it only affects a small portion (the redeveloping portion) of a city's land use, while traffic comes from the comparatively vast areas of surrounding communities. These misunderstandings make designing and implementing development review difficult; stakeholders are disappointed in outcomes and expectations are often not met.
- **Kirkland's level of service measures only auto traffic.** Because the level of service standard directly affects concurrency and impact fees it is central to development review. The current focus on only cars is a source of misalignment between development review results and the transportation principles.
- **Kirkland's current Concurrency system is cumbersome and unpredictable.** Currently, lengthy calculations are needed to know if a development project passes concurrency. It is difficult for those interested in development; developers themselves, neighbors, City Council, to know when concurrency is close to its limits. The most critical factor in designing a concurrency system is choosing the point where a moratorium is triggered. Triggering growth moratoriums cause harm and don't solve the problem concurrency is intended to solve. Recognizing this, expensive and sometimes unpopular auto capacity projects have been funded to ensure that concurrency doesn't cause a moratorium. Agreeing on concurrency's purpose will help determine where trigger points should be set.

Recommendations

- **Develop new level of service standards that align with the transportation principles.** This will mean incorporating transit, bicycling and walking into the standards. A new, less auto-centric level of service standard could reduce the requirement for construction of expensive projects to meet that standard. Because impact fees are proportional to the cost of projects needed to meet the level of service, reducing the cost of projects could reduce impact fee rates. The design of concurrency systems are heavily reliant on appropriate selection of level of service.
- **Review and revise the Concurrency system.** Concurrency should be simplified and should consider transit, bicycling and walking in coordination with a new level of service. Concurrency should principally monitor the approved land use and transportation plans and insure that they are being completed in relative balance.
- **Streamline the development review process.** Create a new document/website to replace the existing Traffic Impact Analysis Guidelines. This document should serve as a "one-stop" guide for anyone interested in the development review process. It should include a section that explains how development review elements relate to each other and to the transportation principles. These relationships should be woven through methods prescribed for analysis. The calculations in the existing Guidelines should be revised to include a multimodal approach and more explicitly consider the impacts of shared use development.

TABLE 2 HOW DO THE DEVELOPMENT REVIEW RECOMMENDATIONS MEET THE PRINCIPLES?

Transportation Principle →	**Move People**	**Be sustainable**		**Create Partnerships**	**Link to Land Use**
		fiscal	environment		
Development Review	Revised level of service standards would focus on transit, bicycling and walking in addition to motor vehicles.	A multi-modal concurrency program will help to balance funding priorities	Development review will more explicitly consider environmental impacts	There are many stakeholders in the development review process. They should each feel as though they have accurate information and understanding of the review process.	Concurrency will do a better job of monitoring the balance of Land Use and transportation at a planning level important to setting citywide priorities.

TRANSPORTATION FUNDING

Background

The City of Kirkland delivers quality projects in a timely and thrifty way. Systems are in place to prioritize sidewalk projects and projects that add capacity for cars. Other project categories have needed less precise prioritizing in the past. Council has struggled with funding the projects necessary to meet auto level of service standards while adequately funding other types of projects. Some funding sources are limited in the type of projects they can pay for. This creates a lack of alignment between funding sources and fulfillment of transportation vision. Capital funding for transportation is programmed through the Capital Improvement Program (CIP) which is usually updated in even numbered years. Changes in policy, technology and costs make it impossible to precisely determine the funding needs over the next 20 years. Instead we should focus on *priorities* for funding and for project selection.

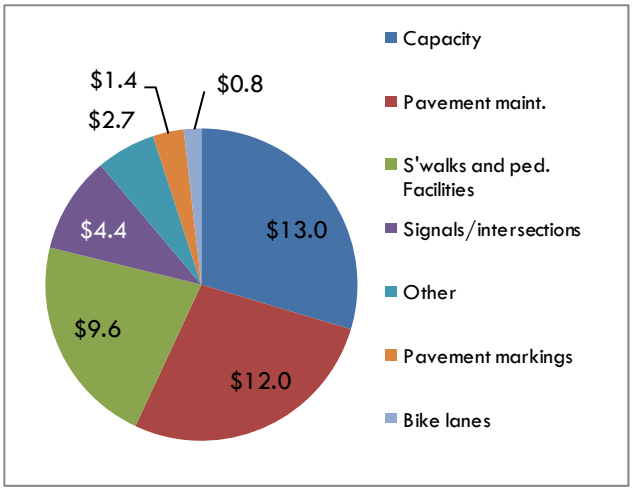


Figure 8 Cumulative CIP transportation spending by project type in millions of dollars. 1997-2007

Concerns

- **Funding for capital projects and replacement of transportation infrastructure is not currently adequate.** For example, based on past performance, even if all revenue were spent on pavement maintenance it would not be sufficient to maintain Kirkland's pavement at targeted levels of condition. Funding to replace transportation infrastructure is not planned for. In contrast to a water utility model where rates are set in order to account for replacement of system elements at the end of their service life, there is not a similar mechanism for funding replacement of traffic signals or other infrastructure.
- **Funding sources are not necessarily in line with our goals.** For example, gas tax revenue cannot be used for sidewalks and bicycle facilities.
- **Clear priorities need to be identified for spending.** It's not currently clear, as an example, whether capacity improvements from the concurrency system or maintenance and preservation of our pavement system, or something else should get the first available funding. It's also not clear how funds are distributed between transportation improvements and, say, park improvements or other macro project categories.
- **Investments in efficiency improvements have been small.** Improving signal timing, developing an Intelligent Transportation System and implementing Transportation Demand Management strategies have each been shown to have substantial benefit cost ratios. In the past there have been large investments in infrastructure, but little investment in operating the transportation system more efficiently.

Recommendations

- **Give first funding priority to preservation of existing investments.** Therefore, the maintenance categories should be funded with a greater fraction of available funding than the other capital projects. Cost effective projects to improve operations should also be a high priority.

- **Consider new ways of doing business and develop new and more flexible funding sources.** New funding options such as transportation benefit districts, street utilities and bond issues for specific projects may be necessary to fund a full transportation system. New funding sources should be supported with creative methods to make the most of existing resources. State laws govern the use of impact fees and gas tax funding to certain types of projects. Some real estate excise tax sources have restrictions as well. Kirkland should work to add flexibility to funding so that multiple funding sources are available to construct projects in line with Kirkland's transportation goals. Maintenance costs should be considered when determining the costs of new infrastructure.

An example of combining strategies to improve pavement management

In February of 2010, Public Works Staff presented City Council with a series of strategies to improve pavement management. Some of the ideas in each of the four strategies areas are shown below

Efficiencies
- More aggressive crack sealing
- Improved paving strategies

Regulatory and policy changes
- Modify the acceptable Pavement Condition Index
- Increase the amount utilities pay for pavement impacts

Pursue partnerships at the State level
- Eliminate studded tires
- Increase gas tax revenue

New revenue sources
- Institute Transportation Benefit District

This is an example of using ideas other than simply raising revenues to help solve a funding shortfall, as proposed in the second recommendation (see left).

- **Develop clear goals and prioritization systems for those project categories where it does not currently exist.** These will guide funding decisions regardless of the amount of total funding available. For example, pavement maintenance has a well developed and sophisticated project prioritization methodology, but maintenance of traffic signals does not.

TABLE 3 HOW DO THE FUNDING RECOMMENDATIONS MEET THE PRINCIPLES?

Transportation Principle →	Move People	Be sustainable		Create Partnerships	Link to Land Use
		fiscal	environment		
Transportation funding	Given limits to funding, clear priorities will be made across the entire range of modal projects.	Priorities, funding methods, and funding alignment will be clarified to assure long-term sustainability.	What is funded, and how it is funded, can influence the patterns of use and the related environmental impact or our transport system.	Potential funding sources are numerous. Partnerships/ relationships will be developed with each significant source of funds.	Land use decisions impact our transportation system's financial viability.

POLLUTION, CLIMATE CHANGE AND HEALTH

Background

It is undeniable that the future of transportation will not rely on automobiles fueled by petroleum. In part because of concerns about pollution, climate change and public health, the next Federal transportation bill is likely to radically depart from previous orientations around construction of motor vehicle facilities funded by a gas tax. The regional transportation plan does not reduce greenhouse gasses, to state target levels, despite aggressive plans to shift emphasis away from roads toward bicycling, walking and transit. Meeting Kirkland's own adopted climate change reduction targets will similarly require changes in transportation policy. Changes in automobile technology can be significant and helpful in the areas of pollution and climate change, but the auto fleet is so large major change may take years to accomplish. In Washington, the age-adjusted percent of adults who are obese more than doubled over the past 17 years, increasing from 10% in 1990 to 25% in 2007. Physical inactivity is a proven contributor to obesity and chronic disease. Transportation choices such as walking and bicycling are relatively simple ways of increasing physical activity that are available to almost everyone. Additionally, our current transportation system is a major contributor to health concerns linked with air and water pollution.

Selected Recommendations for Improving Health through Transportation Policy
US Centers for Disease Control and Prevention April 2010

Reduce injuries associated with motor vehicle crashes *Motor vehicle crashes are the leading cause of death for people ages 1-34.*

Improve Air Quality *Transportation-related air pollutant are one of the largest contributors to unhealthy air quality.*

Expand Public Transportation *Public transportation systems reduce the necessity for single occupancy vehicle trips, reduce the production of automobile emissions, increase incidental physical activity, and provide necessary transportation access for people with physical, economic, or other limitations that impede their access to an use of a single occupancy motor vehicle.*

Promote Active Transportation *Active Transportation systems should connect the places where people live, learn, work, shop, and play by providing safe and convenient walking and bicycling facilities.*

Encourage Healthy Community Design *Healthy community design incorporates elements (such as transportation networks, street designs, and zoning/land use policies) that work synergistically to promote health and safety.*

Source: http://www.cdc.gov/transportation/recommendation.htm

Concerns

- **Transportation policy goals have not been specifically linked to climate change, health or pollution goals.** High-level policy support is necessary to create change in a timely manner.
- **Auto dominated transportation causes a host of negative consequences.** Cars represent the largest single emitter of greenhouse gases and contributor to air pollution and water pollution in Kirkland. Studies by Public Health experts have implicated our current transportation system as a contributor to obesity and other "lifestyle" diseases.
- **Transportation and land use are closely linked in the areas of climate change, health and pollution.** When people can live close to work and other common destinations trip lengths are shortened and the health benefits of active transportation can be felt.

Recommendations

- **Make specific links in the Comprehensive Plan between transportation policy and pollution, climate change and health goals.** Because transportation plays key roles in pollution, climate change and public health, it must be linked to goals in those areas.
- **Implement actions that will begin to reduce vehicle miles of travel and emissions.** Kirkland has a strong statement supporting pricing. This support should continue in order to put driving cost signals in line with

community goals. Implementing infrastructure that supports more efficient vehicles should also be encouraged. This could include easy access to energy for electric vehicles.

- **Proactively meet the goals of the Active Transportation Plan.** The plan encourages development of more facilities for walking and cycling. It has been shown in many other cities that when the number of facilities increase, walking and cycling increase. This increased level of activity can have positive health benefits.

TABLE 4 HOW DO THE POLLUTION, CLIMATE CHANGE AND HEALTH RECOMMENDATIONS MEET THE PRINCIPLES?

Transportation Principle →	**Move People**	**Be sustainable**		**Create Partnerships**	**Link to Land Use**
		fiscal	environment		
Pollution/ Climate change/public health	Emphasis on non-motorized and transit modes will reduce emissions and encourage public health.	Fiscal sustainability should match the objectives of environmental sustainability.	A transportation system emphases the health of our citizens and supports alternative modes directly adds to the overall sustainability of our City.	The health of our citizens is inexorably linked to that our neighbors near and far. Partnering with those organizations and groups will positively impact our success in addressing these issues	The combination of land use and transportation choices are central to working on these issues.

CONCLUSIONS

Every community needs principles to organize it's transportation policy making. This reports proposes four principles tailored to Kirkland's needs

- Move People
- Be Sustainable
- Create Partnerships
- Link to Land Use

Incorporating these principles into the Comprehensive Plan will give a consistent lens with which to view transportation decisions now and in the future.

Looking at three issues in the context of the principles illustrates how the principles can be brought to bear on existing problems to generate meaningful recommendations and actions. Implementing the recommendations contained in this report will require perseverance and the unified work of many interests. It is the goal of the Transportation Commission to incorporate the recommendations into its work plan in order to bring forth meaningful change in the way Kirkland plans, designs, constructs, operates and maintains its transportations projects and programs.

RECOMMENDATION SUMMARY

DEVELOPMENT REVIEW

- ***Develop new level of service standards that align with the transportation principles***
- ***Review and revise the Concurrency system***
- ***Streamline the development review process***

FUNDING

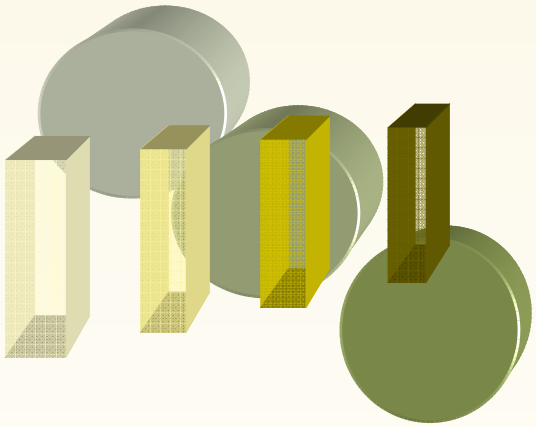
- **Give first funding priority to preservation of existing investments .**
- ***Consider new ways of doing business and develop new and more flexible funding sources***
- ***Develop clear goals and prioritization systems for those project categories where it does not currently exist.***

POLLUTION, CLIMATE CHANGE AND HEALTH

- ***Make specific links in the Comprehensive Plan between transportation policy and pollution, climate change and health goals.***
- ***Implement actions that will begin to reduce vehicle miles of travel and emissions.***
- ***Proactively meet the goals of the Active Transportation Plan.***

TRANSPORTATION CONVERSATIONS

Perspectives on Kirkland's Transportation Policy



City of Kirkland Transportation Commission
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