CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

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

Date: September 22, 2012

Subject: Level of Service/Concurrency/Project selection

RECOMMENDATION:

It is recommended that Council reviews and provides preliminary comments on a proposal from the Transportation Commission.

BACKGROUND DISCUSSION:

The Transportation Commission has made significant progress on three work items arising from the recommendations of the Transportation Conversations document presented to Council in June of 2010 (Attachment 1). Specifically, work items that have been advanced by Commission are:

- *Develop new LOS standards that align with transportation principles;*
- *Review and revise the (City's) Concurrency system;*
- *Develop clear goals and prioritization systems for those project categories where it does not currently exist*

A draft report describing the preliminary conclusions of the Commission's work is included with this memo (Attachment 2). Because of the complexity and potential wide reaching impacts of the proposed recommendations, a study session has been scheduled for November 20, 2012, to provide a more complete discussion of the issues. At this time, the Commission and staff are seeking preliminary Council comments and feedback, and in particular, identification of areas that may need more clarification or for which more background information would be helpful in advance of the study session.

Based on feedback between presentation of these preliminary recommendations and the outcome of the November study session, the Commission is proposing to refine the recommendations and return to Council in early 2013 for adoption by the Council.

Attachment 1: Transportation Conversations
Attachment 2: Draft Transportation Commission Memo

Attachment 1

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

City of Kirkland Transportation Commission

Don Samdahl, Chair

Joel Pfundt, Vice-chair

Morgan Hopper

Tom Neir

Tom Pendergrass

Sandeep Singhal

Michael Snow

Carl Wilson

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

City of Kirkland Public Works Department

Ray Steiger, P.E. Interim Director

David Godfrey, P.E. Transportation Engineering Manager

Dave Snider, P.E. Interim Capital Projects Manager

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.

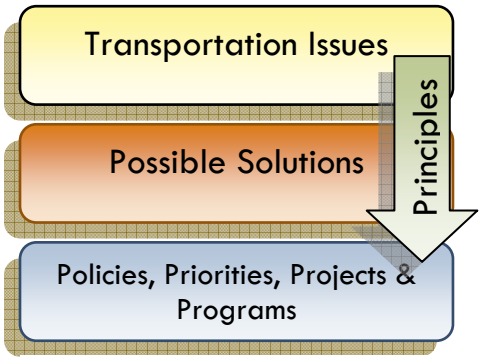


Figure 1 Consistent principles help align issues with possible solutions.

- 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.

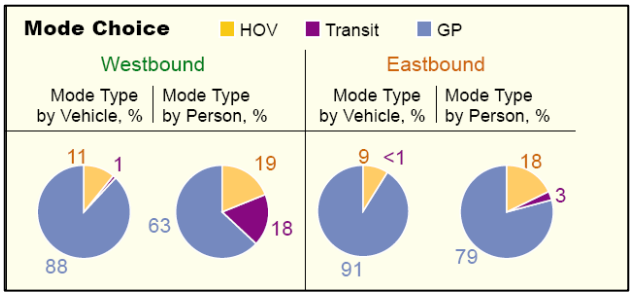


Figure 4 Mode split by vehicle trips and person trips, SR 520 bridge, AM period. In the westbound direction, transit carries 18% of the person trips in 1% of the vehicles. Source: WSDOT

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.***

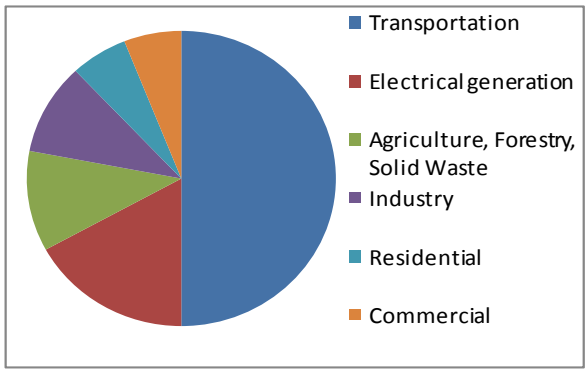


Figure 5 Relative contributions of various sources to greenhouse gas emissions, 2002. Source: Puget Sound Clean Air Agency.

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.

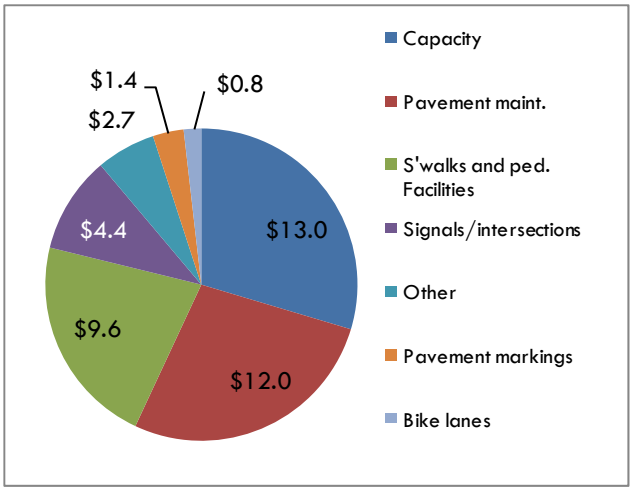


Figure 8 Cumulative CIP transportation spending by project type in millions of dollars. 1997-2007

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

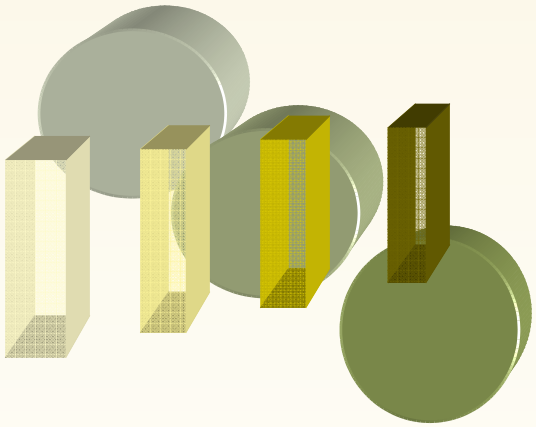
- **Give first funding priority to preservation of existing investments .**
- ***Consider new ways of doing business and develop new and more flexible funding sources***
- ***Develop clear goals and prioritization systems for those project categories where it does not currently exist.***

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
www.ci.kirkland.wa.us

CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

DRAFT

To: City Council

From: Kirkland Transportation Commission

Date: DRAFT

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 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

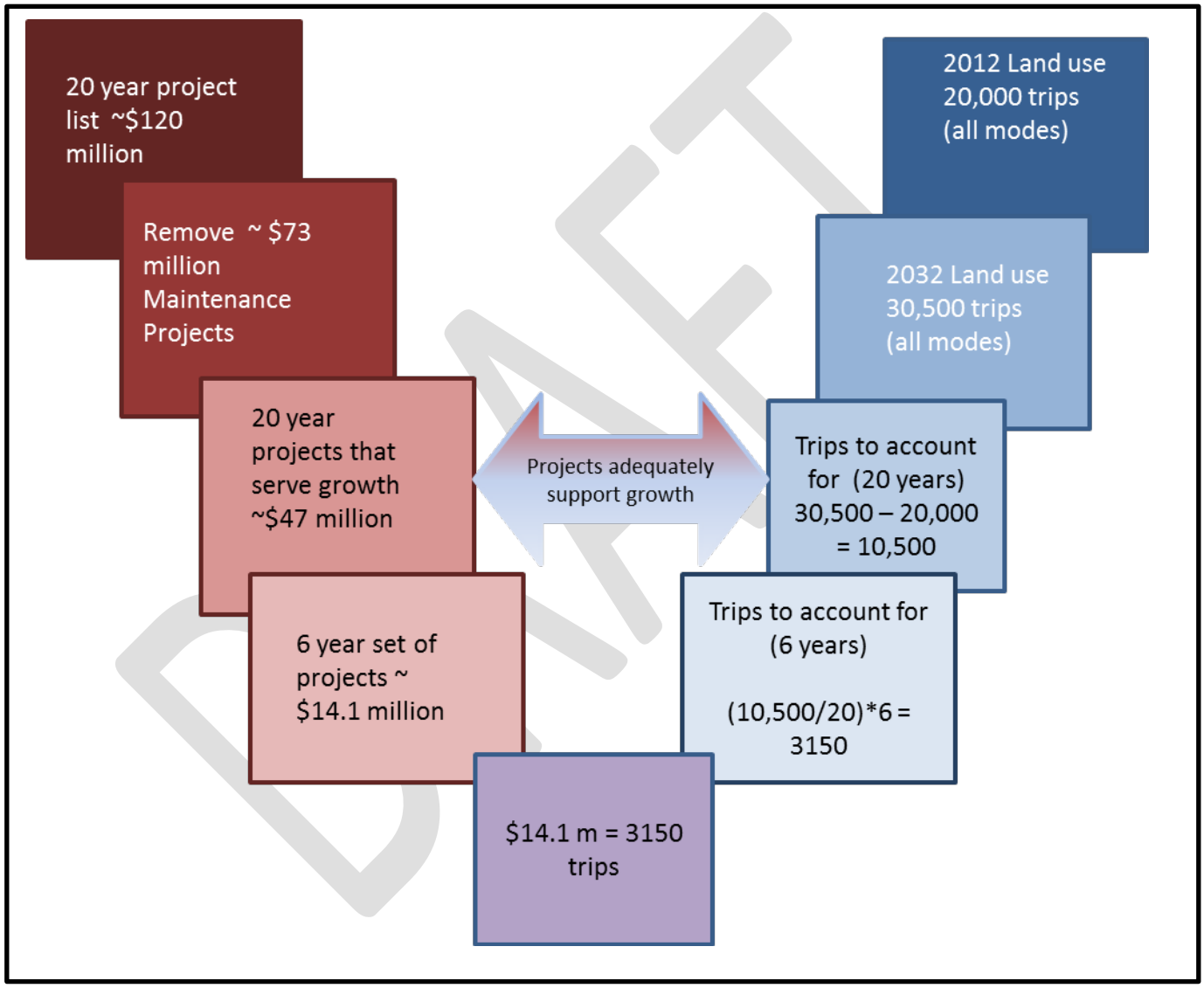
As recommended in Transportation Conversations, "Concurrency should be simplified and should consider transit, bicycling and walking…Concurrency should principally monitor the approved land use and transportation plans and insure that they are being completed in relative balance." Concurrency should 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” of 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, its 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

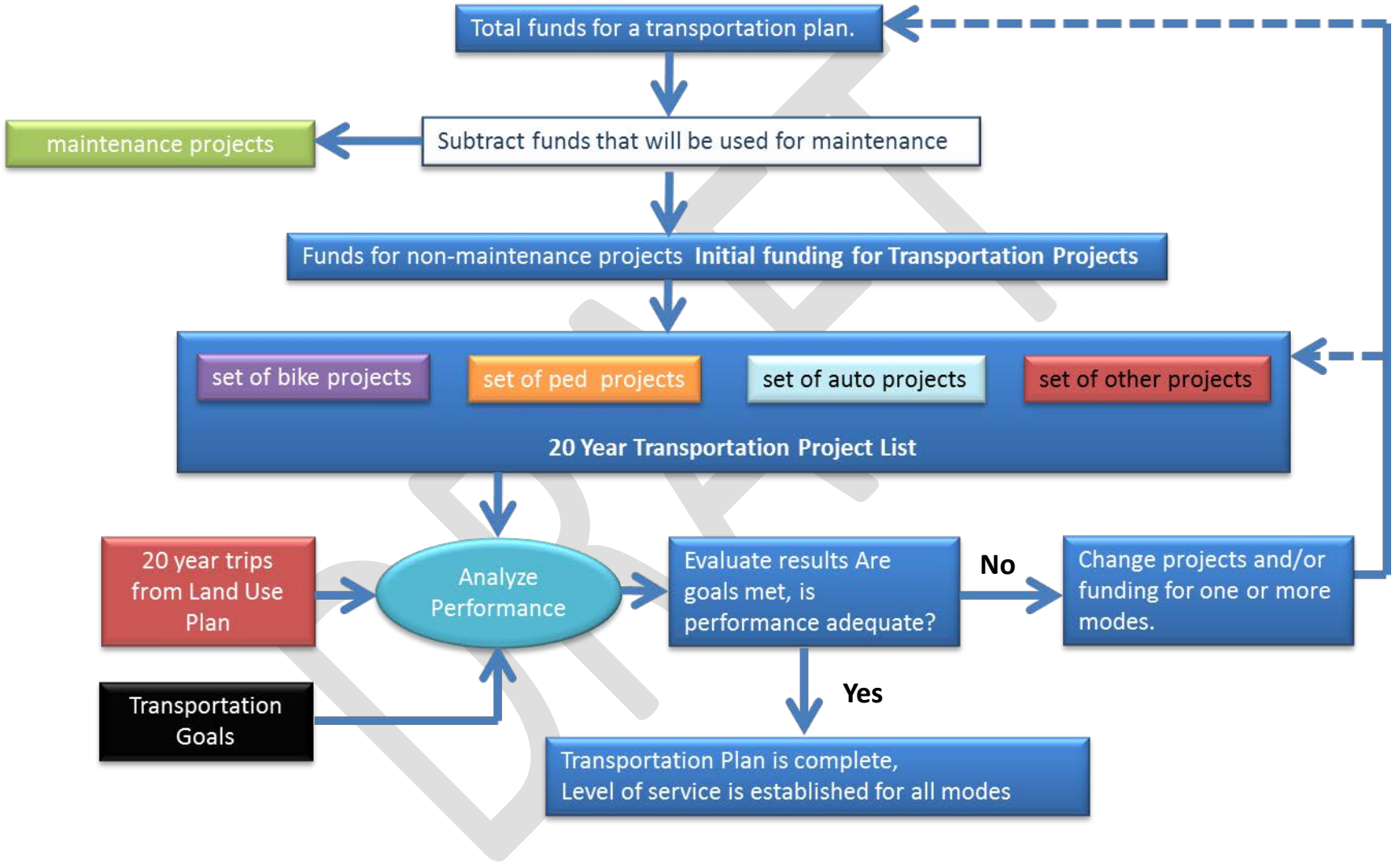
In contrast, the concurrency system we use today requires that, for each development, the number of trips that will go through each signalized intersection are estimated. Then, for each signal, a calculation is performed to determine the projected level of service at that signal. Finally, the performance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

Recommendations

The Commission recommends:

- Council affirms 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.