INTRODUCTION

Seattle residents have a clear vision for the future of this city. We want vibrant neighborhoods where we can conveniently shop, live, and be part of a community. We want a healthy environment with clean air and water; and we want a strong, secure economy. These goals are outlined in the City's Comprehensive Plan.

The transportation system is a critical part of this vision. It provides access to what Seattle offers: jobs, education, shopping, recreation, social life, and connections to the broader region and the world. Transportation moves the products and services that keep the economy going. It shapes the appearance and character of our neighborhoods. How we manage the transportation system helps determine whether our environment is healthy or polluted. In short, transportation plays a major role in determining how livable our city really is.

The Transportation Strategic Plan (TSP) will be the City's guide for managing Seattle's transportation system. It outlines the specific strategies and actions required to achieve the transportation goals in the Comprehensive Plan. It maps out the policies and investments required to achieve a healthy, efficient transportation system.

Seattle's Transportation Problems

Unfortunately, Seattle's transportation system is struggling.

Traffic growth is overwhelming our streets, both in Seattle and throughout our entire region. Over the last twenty years, vehicle miles traveled in the region has grown four times as fast as population. This traffic is not only frustrating, it is unhealthy and expensive. Pollution and congestion are taking an increasingly severe toll on the environment, neighborhoods, the economy, and our daily lives.

Meanwhile, we have a growing backlog of maintenance problems. Older streets are filled with potholes. Drawbridges are wearing out. Sidewalks are buckling.

Not surprisingly, people are demanding that the City take care of these problems. We do not, however, have the necessary resources. The City of Seattle has a major transportation funding problem. The City's current transportation revenues are $59 million. Achieving appropriate levels of maintenance (preventing additional deterioration and gradually retiring the maintenance backlog) will require an estimated $80 million per year. Any investments in much-needed mobility improvements would require still more funding.

Several factors have eroded Seattle's transportation funding over the years. We lost $10 million per year when the State Supreme Court declared the City's Residential Street Utility Fee unconstitutional. Inflation reduces the value of the City's gas tax and license fees by a little more than $360,000 per year. The City loses another $500,000 per year because the State has not updated the gas tax distribution formula to account for the creation of new cities and towns—the cumulative impact is now over $2 million annually. In short, we have lost more than one-fourth of the transportation budget since 1993.

Given these trends, achieving a vibrant, livable future requires that we make some important changes in our approach to transportation. These changes are outlined in the Comprehensive Plan.

The Costs of Driving

Cars are extremely helpful and convenient. The problem is that driving is the only viable option for too many Seattle residents too much of the time. The Transportation Strategic Plan is designed to make public transit, bicycling, walking, and carpooling more attractive, because all of our driving is taking a tremendous toll on our health, our environment, our economy, and our communities.

- Cars are Washington's largest source of air pollution. This pollution causes health problems and harms trees and plants.

- Cars are Washington's largest contributor to global climate change. Using one gallon of gasoline generates 22 pounds of carbon dioxide.

- Cars are major contributors to water pollution and oil spills.

- Traffic congestion is estimated to cost the Puget Sound region $670 million annually, severely inflating the cost of moving goods and services.

- Traffic accidents kill about two thousand people in the Northwest each year and seriously injure thousands more.

- Noisy, polluted, and dangerous streets discourage community life and neighborhood interactions.

The Comprehensive Plan

The Comprehensive Plan calls for securing the funds necessary to preserve and maintain existing transportation facilities. It calls for reducing dependence on cars, and for making transit, bicycling, and walking more convenient and attractive. It seeks to maintain and improve the ability to move freight and goods, and to preserve the character and livability of our neighborhoods.

One of the most important themes in the Comprehensive Plan is the urban village strategy. The Comprehensive Plan aims to concentrate growth into identified "urban villages" and "urban centers" where the highest densities of housing, jobs, and services already exist. This will place more residents near jobs and shopping opportunities, making it easier for them to conduct more of their daily business without driving. The concentration of residents and employees will also support better transit service.

The Transportation Strategic Plan is the City's guide for achieving the transportation goals outlined in the Comprehensive Plan.

Overview of the Transportation Strategic Plan

The strategies in the Plan focus on the following areas:

1. Operations and Maintenance: keeping our existing transportation infrastructure operating smoothly and in good repair. This is the City's highest transportation priority and accounts for the vast majority of Seattle's transportation budget.

2. Moving People (including cars, walking, bicycling, public transit, new transit, Sound Transit, transportation demand management, and additional strategies): ensuring that people can get around the city and have viable alternatives to driving alone.

3. Protecting and Enhancing Neighborhoods: ensuring that neighborhoods remain people-friendly places to live and walk

4. Protecting Our Environment: reducing the environmental impacts of driving that does occurs.

5. Moving Freight and Goods: keeping products moving in and through the city and maintaining economic vitality

6. Parking: improving our approach to storing cars, an issue that is absolutely critical to achieving our transportation goals

7. Funding: resolving the City's transportation funding problems by increasing transportation revenues

8. Priorities: providing guidelines and criteria to direct the City's transportation investments and the implementation of this Plan

9. Evaluation: reviewing the effectiveness of the City's efforts to achieve its transportation goals

The City does not have the funds to implement all of the strategies in this Plan. Operations and maintenance needs could absorb all of the City's transportation funding. But while taking care of the existing system is our highest priority, there is also a tremendous need for improvements. The City must address safety and mobility deficiencies and take advantage of opportunities to leverage funding, increase efficiency, and promote economic development. The Priorities chapter outlines how the City will choose among these various strategies and investments.

The TSP outlines what the City should do, not what it can currently afford. But while the strategies are not "constrained" by existing revenues, they are grounded in practicality. They are based on incremental improvements rather than unrealistic outcomes. Many can be implemented at higher or lower levels or covered under existing budgets, depending on funding. They are already part of, or can be worked into, existing work plans. Other strategies require additional funds or reallocations from existing efforts.

Public Comment

This adopted Transportation Strategic Plan is the product of substantial help and advice from the public. The Strategic Planning Office and Seattle Transportation made significant changes from the Public Review Draft, in response to what they heard from hundreds of people and groups in writing and in person. During the three-month public review process, they distributed over 40,000

summaries and 1,500 copies of the complete Draft Plan, held six forums around the city, and made over 40 presentations to transportation stakeholders and interested groups.

The City Council Transportation Committee held two public hearings in September, 1998, on the Mayor's Recommended TSP and made additional changes based on those comments. Thank you to everyone who took the time to help develop the Transportation Strategic Plan.

Reading the Plan: Strategies, Actions, Cost, Start Date, and Priorities

The TSP includes both **Strategies** and **Actions**. Strategies are the broader methods the City proposes to use to achieve its transportation goals. Actions are the specific steps the City will take to implement the Strategies. Some strategies also cite Trade-offs, which highlight the possible negative consequences of implementing a particular strategy.

Each action includes a **Start Date: 1998**, **1999**, **Post-1999, New $**, and **Major $$**. Actions listed as 1998 are either those that the City has been performing for many years (e.g., street maintenance) or actions that began in 1998 with the development of the TSP. Actions listed as 1999 will begin then. Actions listed as Post-1999 are tasks that will be undertaken after 1999, when other actions are complete or there is room in departments' work programs. Actions listed as New $ cannot be implemented without additional resources or staff (e.g., grant funding or new tax revenues). The Major $$ label is assigned to actions that cannot be implemented without a major revenue increase (e.g., annual increases of $10 million or more).

Many of the actions include several Start Date targets. These are actions the City will implement at different levels in different years, depending on the funding available.

The strategies include **Cost Estimates** and **Priorities**. Costs are listed in Appendix A. Cost estimates are included for illustrative purposes and not for budgeting purposes. Information about how to interpret the cost estimates is provided at the beginning of Appendix A. While priorities are discussed in the text on occasion, they are more specifically listed in Chapter VIII. Priorities indicate the specific criteria that are used to prioritize where the City will implement a particular strategy (which City streets will be paved first, for example).

Appendix A also includes the Executive department responsible for leading the implementation of the actions. In some cases, two or more departments are listed because of their joint work on the particular action. The list is also not exclusive, and other City departments and agencies are often involved in the implementation.

In order to ensure that the Transportation Strategic Plan is implemented in a timely and appropriate way, the City Council and affected Executive departments are developing a monitoring and evaluation plan. The Evaluation chapter describes the annual report to City Council on the progress of implementing the TSP.

I. OPERATIONS AND MAINTENANCE

The City's highest transportation priority is to take care of its existing transportation infrastructure--valued at an estimated $5 billion. Seattle's 1,650 miles of streets, 138 bridges, over 300 miles of sidewalks, and 130 miles of bicycle facilities are the backbone of the City's transportation system and the foundation of almost every TSP strategy.

Keeping this system operating smoothly is a major undertaking. The vast majority of Seattle's transportation budget is spent on operations and maintenance. However, the City's ability to operate and maintain its transportation system has been hampered by funding shortfalls. Seattle faces a growing backlog of deteriorating bridges and streets. Drawbridges are wearing out. Old streets are filled with potholes. Making matters worse, the maintenance backlog raises costs because it is more expensive to rehabilitate badly deteriorated streets and structures than to maintain them.

The elements of the existing transportation system must be operated, maintained, and eventually replaced for the TSP to succeed. When setting transportation priorities, the highly visible improvements must be carefully balanced against the less visible--but vitally important--need to take care of the existing system. The City's efforts fall into three categories: 1) operations, 2) maintenance, and 3) rehabilitation.

Operations refers to day-to-day work required to keep the transportation system running safely and effectively, such as opening and closing bridges.

Maintenance refers to the day-to-day work necessary to keep the system in good repair, so that system elements last as long as possible. Examples include patching potholes, replacing traffic light bulbs, and shimming uneven sidewalks.

Rehabilitation (also known as major maintenance) is necessary as a system element wears out and needs to be completely reconditioned or removed and replaced. Examples include repaving streets and replacing crash cushions.

Strategy OM1 Operate the Transportation System Effectively

The City's operations work allows the transportation system to function safely and effectively. Examples include operating bridges, investigating school safety issues, issuing street-use permits, hooding parking meters, planning and providing traffic control for special events, collecting and analyzing traffic data, administering carpool parking, and analyzing and changing curb uses.

The priorities for operating programs, in order of importance, are 1) safety, 2) mobility, and 3) customer service. When funds are insufficient for all needs, the City does not fund all of its higher level needs before any of its lower level needs. There are different funding levels for safety, mobility, and customer service, and they must be evaluated against each other.

In general, though, as funding for operations declines, customer service feels the shortfall first. This includes activities such as working with neighborhoods to help develop solutions for local traffic problems, prompt reviews of requested changes in curb space use, responding to complaints about trucks, and coordinating with other agencies in the region.

With substantial shortfalls, there are impacts on mobility programs as well, including re-timing traffic signals, changing street channelization to reduce congestion, planning bicycle improvements, inspecting contractors' closure of traffic lanes, and preparing traffic control plans for special events.

ACTION: Continue to provide the basic operational services necessary for the transportation system to function safely and effectively.

Strategy OM2: Maintain and Preserve the Transportation System

Potholes are one of the most visible signs of the need for day-to-day maintenance of the transportation system. Such maintenance falls into three general categories: 1) primary, 2) preservation, and 3) environmental.

Primary maintenance is work done to keep the system operating safely and efficiently. It includes repairing and replacing all kinds of equipment: fallen stop signs, jammed parking meters, faded curb markings, damaged crash cushions and guardrails, sidewalk lifts that can trip pedestrians, and burned- out traffic signal bulbs. It also includes trimming overgrown vegetation that blocks traffic sight-distances or obstructs sidewalks and stairways.

Preservation maintenance extends the life of the transportation system. Examples are patching potholes, sealing cracks in streets, lubricating bridge mechanisms, caring for street trees and landscaping in street rights-of-way, inspecting structures, and repairing utility poles. Deferring such maintenance can significantly reduce the useful life of facilities, with corresponding increases in replacement costs. The bottom line is that maintenance is usually cheaper than replacement.

Eventually, however, it is more cost effective to replace a structure than to repair it constantly. Older streets generate more potholes. After a certain point, it makes more sense to repave or replace a street than to constantly fix potholes (see chart below).

Environmental maintenance keeps Seattle an attractive, vibrant place to live; examples include mowing medians and hillsides, sweeping streets, cleaning sidewalks and landscaped areas, and emptying trash receptacles.

The City's maintenance priorities, in order of importance, are:

- Primary maintenance, since most is directly related to the public safety

- Preservation maintenance, since it is usually the most cost-effective means of achieving many transportation-related Comprehensive Plan goals

- Environmental maintenance

As with operations, maintenance trade-offs among the three priorities must be considered. However, reduced funding levels generally will affect environmental maintenance first--and most-- followed by preservation maintenance, then primary maintenance.

ACTION: Perform the day-to-day maintenance of the transportation system necessary to keep it operating safely and effectively, maximize its useful life, and maintain a lively, attractive streetscape.

Strategy OM3 Replace and Rehabilitate Failed Elements of the Transportation System

Rehabilitation is necessary as a system element reaches the end of its useful life and needs to be completely overhauled or removed and replaced. At a certain point, it is more cost-effective to replace a structure than to constantly repair it--even if such repairs could keep it operating. Examples include paving streets and replacing bridge lift mechanisms (or whole bridges),

streetlights, and retaining walls. This work also includes maintaining non-motorized facilities such as sidewalks, stairways, and bicycle lanes and trails, which are critical to making walking and bicycling safe and accessible.

The City's major maintenance work falls into three categories: 1) street paving, 2) structures, and 3) traffic control devices and streetlights. Sidewalks are covered in Strategy W2.

Strategy OM3.1 Maintain Arterial Pavement in a Smooth Condition that Minimizes Citizen Complaints and Life-cycle Costs

Keeping the streets paved is one of the basic responsibilities of city government. Seattle's streets have deteriorated in recent years--a result of both aging infrastructure and limited transportation revenues. Seattle residents have expressed their clear dissatisfaction with these conditions. The City resurfaces only arterial streets, with very few exceptions (e.g., a few non-arterials with Metro bus routes). It does not make sense to resurface residential streets, which carry much lower traffic volumes, before arterial streets are maintained.

The City tracks the condition of arterial streets with a pavement management system. Currently, 19 percent (230 lane miles) of Seattle's arterials are considered to be in "poor" condition, 32 percent (385 lane miles) in "fair" condition, 27 percent (325 lane miles) in "good" condition, and 22 percent (265 lane miles) in "very good" condition.

The key to a cost-effective paving program is resurfacing streets before they deteriorate to a "poor" condition. It costs far more to reconstruct a "poor" street (rebuild both the base and the surface) than to resurface a "fair" or "good" street. Research and experience have shown that, over the long run, allowing roads to deteriorate to the point where they have to be reconstructed costs four to six times more than maintaining them in "good" condition (see chart previous page). This presents a difficult choice when funding is short. The City needs to prioritize most of its paving dollars to prevent the deterioration of streets in "fair" and "good" condition, and spend less on rebuilding "poor" streets.

The TSP establishes a goal of resurfacing streets before they deteriorate to the point where they must be rebuilt. Streets in "poor" condition are generally in need of complete reconstruction. Streets in "fair" condition may not have to be rebuilt, depending on the street.

Arterial streets that need repaving make up the City's paving "backlog." The City estimates that it needs $16 million per year over 20 years to maintain arterial streets and make a reasonable level of progress on the backlog.

Pavement design has a major impact on life-cycle costs. Design factors include the type of base (e.g. crushed rock, concrete), the thickness of the base, and the thickness and type of surface. Although concrete is much more expensive than asphalt, it lasts much longer. When a lot of heavy vehicles use a street, the life expectancy of asphalt is so short that it is often cheaper to pave with concrete. However, concrete raises utility installation and repair costs.

ACTION 1: Maintain arterial streets in the most cost-effective manner possible, performing ongoing maintenance and resurfacing streets before they deteriorate to the point of needing to be reconstructed. Gradually retire the existing paving backlog.

ACTION 2: Prior to each major repaving job, review the use of the street and design the paving to minimize life-cycle costs and provide a surface appropriate for the street.

Strategy OM3.2 Reduce Pavement Deterioration Caused by Utility Cuts

Streets are used for much more than transportation. Both public and private utilities have infrastructure beneath the street surface. Sewers, water, electrical facilities, telephone, natural gas, cable, data communication systems, and steam pipes all occupy street rights-of-way. Installing, repairing, and replacing these utilities usually involves cutting into the street surface. This can shorten pavement life and create rougher street conditions. Coordinating the utility cuts and paving schedules, on the other hand, can leverage paving dollars and also minimize construction disruption by completing several projects at the same time.

The City has strengthened its efforts to coordinate paving and utility work. SEATRAN now shares its list of upcoming street paving projects with public and private utilities well in advance to coordinate construction work. SEATRAN has added a half-time position to handle the increased workload, funded by the fees charged to utility construction permit holders.

The City's pavement opening policies have become more restrictive. SEATRAN has raised street restoration requirements and now restricts utilities from doing capital projects for three years after a street has been paved, unless justified by emergency or other special circumstances.

The practice of using native backfill material and temporary patches for utility cuts may result in "square potholes" and delays the permanent repair of the street. One possible solution is using Controlled Density Fill (CDF) for backfill. CDF is a sand slurry with a little cement in it. It sets up quickly, does not settle, and is also fairly easy to excavate if necessary. Using CDF or similar material for backfill would allow immediate permanent repairs to the street. The main disadvantage is that CDF is more expensive than native material.

ACTION 1: Strengthen coordination efforts between street paving and utility work. Continue to prohibit utility cuts into a street within three years of repaving, unless justified by emergency or other special circumstances.

ACTION 2: Require the use of Controlled Density Fill or other select material rather than native material when backfilling utility cuts.

ACTION 3: Develop street restoration charges to cover the full impact of utility cuts, including the loss in the useful life of the street and deterioration of sidewalks. Establish a reserve fund based on street restoration charges from public and private utilities to repair and repave street ROW which has deteriorated as a result of multiple utility cuts.

ACTION 4: Require restoration of pedestrian facilities to a condition as good as or better than before the utility work was undertaken.

Strategy OM3.3 Minimize Pavement Damage from Heavy Vehicles

Heavy vehicles cause a disproportionate amount of damage when they use streets not designed to accommodate them. The City works to route trucks and buses on arterial streets to the greatest extent feasible, and to design arterials to withstand the additional loads. Some use of non-arterial

streets is inevitable, however. Trucks over five tons are prohibited on residential streets unless they are making deliveries. But garbage trucks and delivery trucks must use non-arterials to provide basic services.

Large "overlegal" loads must get a City permit and follow an assigned route established to minimize operational and maintenance problems. Trucks entering the city on a state permit authorization are also required to get approval from the City Traffic Engineer and are routed appropriately.

ACTION: Continue permitting of heavy vehicles and enforcement of restrictions to minimize pavement damage while allowing for the necessary provision of basic services.

Strategy OM3.4 Replace and Rehabilitate the City's Bridges and Other Structures

The City owns, maintains, and operates 138 bridges and 850 other important structures, including stairways, seawalls, and retaining walls. These structures are valued at roughly $1 billion, and they all have limited life spans. The consequences of a bridge failure are obvious. But the failure of retaining walls and seawalls, which protect and support bridges and roadways, can be similarly disastrous. In addition, deteriorating stairways can dramatically alter walking opportunities; stairways often provide important links to transit routes or neighborhood commercial areas.

Almost all of Seattle's structures were built in the last 70 years, which is why very few major failures have occurred to date. But some of those structures are now at the point where, due to age and deterioration, the possibility of failure is becoming a serious concern. For bridges, this would mean either having to impose load or use restrictions, or that the bridge could be unusable. For instance, the electrical and mechanical systems that operate the Fremont and Ballard bridges are wearing out and have already experienced several intermittent failures. Federal law requires that the bridges open for boat traffic; if the bridges are unable to operate, the City will need to leave them open, cutting off traffic access.

The total cost of the current backlog is about $46 million. These are structures showing serious signs of wear that the City would replace or rehabilitate now if the money were available. There is an additional need to perform seismic retrofitting of bridges, which would include a one-time cost of about $35 million. Over time, the City will add additional structures to the backlog as they begin to show significant signs of wear.

Since all structures will eventually fail unless replaced, the issue is when, not whether, to pay the associated costs. There are three basic options:

- Replace or rehabilitate before failure. An organized, pay-as-you go approach would cost an average of about $12.2 million per year to handle major maintenance work over the next 20 years. This estimate does not include replacement of significant major structures such as the Magnolia Bridge or the Fourth Avenue South Viaduct. The size of some projects can make this fluctuate considerably from year to year. The benefits of this approach are that it minimizes replacement costs, disruption to the transportation system, and associated economic impacts.

- Replace after failure. This is the most expensive of the replacement options, since in addition to the basic cost of replacement, the public incurs the additional expense of

emergency repairs, repairs required for associated damage (broken utilities or damaged homes, for instance), and the economic impacts of the temporary loss of access. Depending on the nature of the failure, access can be lost for months or even years.

- Do not replace. The costs of this approach are staggering, including lost access to property (and associated reductions in property values), increased time and expense of travel, reduced public safety and lost access for emergency services, and decreased economic viability.

Replacing (or rehabilitating) structures before they fail (option #1) is both the least expensive and the most effective option available. But current revenues are not sufficient to completely address this need. As a result, the City's current efforts are a combination of the first two options. We are replacing and rehabilitating structures, but not fast enough to keep pace with deterioration. As the City focuses its limited resources on the most critical structures, over time neglected structures will begin to experience more severe failures.

The City allocates its funding to its most critical structures first, based on the following criteria: the volume of traffic affected, the availability of alternate routes, the impacts on emergency services, the consequences and likelihood of failure, the value of the structure, its importance to the movement of freight and goods, the cost of the project, and opportunities to leverage outside funds.

ACTION: Rehabilitate and replace structures before they fail.

Strategy OM3.5 Replace and Rehabilitate Traffic Control Devices and Streetlights

Compared to rehabilitation and replacement of streets and structures, traffic control devices and streetlights are a smaller--but very important portion of the overall need. The City replaces worn out traffic signal systems, signs, and lane markers.

The deterioration of traffic control devices undermines safety and efficiency. Traffic controllers get hit by cars, damaged by power surges, or simply wear out. For instance, signal poles have corroded to the point where they are being tied to buildings to prevent them from falling over. Failed communication systems make traffic signals less responsive to traffic demand. Traffic control and guide signs fade or fall down; guide signs often are not replaced. Lane markers, marked crosswalks, stop bars, and bicycle lanes fade out or are scraped off by vehicles. Some guardrails do not meet current safety standards, while other deteriorated ones do not get replaced.

The electrical systems for streetlights in several areas of Seattle are vulnerable to failure and badly in need of replacement. The conduit has worn out, and many poles are nearing, or have exceeded, their useful lives. Properly lighted streets and sidewalks are important for traffic and pedestrian safety.

ACTION: Rehabilitate and replace traffic controls and streetlights before they fail.

Strategy OM4 Maintain and Improve Transportation Safety

Safety plays an important role in the prioritization, design, and implementation of virtually all of the City's transportation projects. While safety is balanced with other transportation needs (such as

access and mobility), prudent investments that address or prevent serious safety problems will always be one of the City's highest priorities.

Although safety issues are a component of virtually every TSP strategy, the City also performs transportation work that focuses primarily on safety. This work falls into four areas.

- Minor safety programs: day-to-day activities such as installing traffic control signs and guardrails, adding left turn lanes at intersections, maintaining and evaluating accident records, and eliminating bicycle hazards like dangerous drainage grates.

- Capital improvement projects and programs: larger investments made principally to improve safety, including new traffic signals and the proposed improvements to Spokane Street Viaduct.

- Maintenance and rehabilitation: work aimed at preventing safety problems, including repairing sidewalk lifts that can trip pedestrians, replacing knocked-down signs, and maintaining sight distances.

- · Opportunity improvements: capital improvement projects not principally oriented to safety can still provide opportunities to make safety improvements. Adding curb bulbs and landscaping to a major street reconstruction project, for example, improves pedestrian safety and environment at a small cost.

ACTION: Continue to invest in maintenance and improvements that improve safety for all transportation modes.

MOVING PEOPLE

Tremendous traffic growth is overwhelming roads and streets in Seattle and the entire region. This traffic is frustrating, unhealthy, and expensive. The pollution and congestion are taking an increasingly severe toll on the environment, our neighborhoods, the economy, and our daily lives. Offering more people better choices--public transit, walking, bicycling, carpooling--is the key to managing dramatic growth in traffic and pollution.

The Comprehensive Plan sets ambitious goals for reducing our dependence on cars and for making transportation alternatives more convenient and attractive. Cars will continue to be the most popular travel choice in the foreseeable future. The problem is that they are the only viable choice for most people too much of the time.

Improving transportation alternatives is also critical for the mobility of more than 180,000 Seattle residents who do not drive. Seventeen percent of the households in Seattle have no car and about a third of the population cannot drive; they are too young, too old, disabled, cannot afford a car, or do not want one.

The City of Seattle can make transit, bicycling, walking, and carpooling more attractive and convenient. These modes of transportation can and do work. Ten percent of Seattle residents walk or bicycle to work. Currently, 31 percent of the people working in downtown Seattle take the bus

to work. After the Sound Transit's light rail, commuter rail, and express bus services start operating, that share will increase to over 50 percent. The Transportation Strategic Plan details a host of strategies designed to improve alternatives to driving for all of Seattle's citizens.

Accessibility

The Americans with Disabilities Act, passed in 1990, is a federal law mandating improved access, barring employment discrimination, and easing other barriers for people with disabilities. The Act's requirements include provisions for wheelchair access onto bus and rail transit systems as well as accessible designs for buildings and other facilities.

Ensuring accessibility for people with disabilities and all Seattle residents is a theme that crosses all of the TSP chapters, but especially when implementing pedestrian, bicycle, and transit improvements. Key examples include installing curb ramps (Strategy W1.1), installing sidewalks along arterial streets (Strategy W2), and implementing some innovative pedestrian crossings such as auditory crosswalk signals.

CARS

While the Comprehensive Plan aims to increase our use of transit, walking, bicycling, carpooling, and other alternatives, cars will continue to be the most popular travel choice for the foreseeable future. The challenge is to manage the driving and parking of all these vehicles as effectively as possible. That is a major undertaking. There are 350,000 cars registered in Seattle--this city has more cars than licensed drivers. Over the last twenty years, vehicle miles traveled in the region has grown over four times as fast as population.

The Transportation Strategic Plan includes two chapters and a broad range of strategies aimed at supporting and managing automobile travel. These include:

- Operations and Maintenance (Chapter I). Cars are overwhelmingly the most numerous users of the existing transportation infrastructure.

- Parking (Chapter VI).

- Optimize the People-Moving Capacity of Existing Streets (Strategy A3).

While much of the TSP supports driving, its central focus is to make public transit, walking, bicycling, and carpooling more attractive. The Comprehensive Plan recognizes that, with very few exceptions, expanding streets and roads to accommodate cars is generally unproductive. New capacity is quickly filled by more driving. In addition, opportunities to widen or construct new streets in Seattle are extremely limited and will not resolve the growing traffic congestion problems in the region.

Nevertheless, strategies for making the most efficient use of Seattle's arterial streets are important. Cars will continue to be our most heavily used travel option. Moreover, general traffic congestion on arterial streets often creates unavoidable delays for buses, carpools, trucks, and even pedestrians.

Strategy C1 Optimize General Traffic Flows on Arterial Streets

Arterial streets are designed to more safely handle higher volumes and speeds of traffic than non-arterial streets. There are a number of ways the City can increase the efficiency of arterial streets, including:

- Operational changes: small revisions like adjusting signal timing (see Strategy A3), installing turn pockets, restricting turning movements and driveways, installing regulatory and informational signing, and changing curb uses to provide for turning movements and through-lane continuity.

- Major Capital Improvements: large projects like installing signal interconnects, improving direct linkages with highways and freeways (e.g., Mercer Street), and constructing grade separations (see Strategy FM2.1).

Major investments in new lane capacity would be justified only in the rarest of circumstances, and such projects require substantial analysis to determine the cost-effectiveness as well as the evaluation of impacts and potential for lower-cost alternatives.

ACTION 1: Identify and implement opportunities to make operational improvements through adjustments of existing traffic facilities, in a manner consistent with other strategies designed to foster pedestrian-friendly streetscapes and protect neighborhoods.

ACTION 2: Evaluate and implement capital improvement projects on arterial streets to enhance traffic operations, in a manner consistent with other strategies designed to foster pedestrian-friendly streetscapes and protect neighborhoods.

WALKING

Virtually everyone is a pedestrian some of the time, even if they only walk from their front door to the car door or the bus stop. Over seven percent of Seattle residents walk to work. As with bicycling, walking has good potential to play an even more important role in the future. About 27 percent of all trips are less than one-mile long, a comfortable walking distance for many people.

We need to actively welcome and accommodate pedestrians on city streets. While few of us think about special facilities for pedestrians, other than a pair of shoes and a sidewalk, safety issues are important. Over 13 percent of all traffic fatalities involve a pedestrian. In this state, a pedestrian is almost four times as likely to be killed by a car than by a stranger with a gun. The most vulnerable pedestrians are children and the elderly.

This section of the Transportation Strategic Plan proposes a variety of strategies designed to make walking safer and more attractive. Other strategies that address walking include: Strategy A1: Incorporate Pedestrian, Bicycle, and Transit Improvements into Capital Improvement and Major Maintenance Projects, Strategy A4: Enforcement, and many strategies in Chapter III: Protecting and Enhancing Neighborhoods.

Strategy W1 Make Street Crossings Safer and Easier

Fifty-five percent of all pedestrian accidents occur at street crossings. Crossings can also significantly delay a pedestrian trip; waiting a minute per signal at a series of five signals can increase the travel time for a one-mile walk by 25 to 30 percent. There are three basic solutions to these problems: 1) slow motor vehicles down as they move through the crosswalk (the frequency and severity of accidents increase as vehicle speed increases); 2) reduce crossing distances, so that pedestrians spend less time in the street; and 3) adjust signals to reduce the time that pedestrians spend waiting at stoplights.

Strategy W1.1 Upgrade Crossings to Improve Pedestrian Safety and Convenience

A number of crossing treatments can improve pedestrian safety and convenience:

Crosswalks mark a crossing space for pedestrians. Legally, crosswalks exist at all intersections, whether marked or not. Ladder-style crosswalks are more noticeable and last longer (see Strategy W1.2).

Curb Bulbs extend the sidewalk past the parking lane to the edge of the travel lane. They slow the speed of turning vehicle traffic by creating a sharper corner. They narrow the street crossing distance for pedestrians, make waiting pedestrians more visible to oncoming traffic, and help pedestrians see around parked cars. Curb bulbs cannot be used where there is no parking, where parking is removed during rush hour, or where they prevent the necessary use of the intersection by large vehicles.

Reducing Curb Radii creates a "sharper" corner, slowing the speed of turning traffic and reducing the crossing distance for pedestrians. This simple change offers significant safety benefits, but can create problems for large vehicles (see Trade-offs).

Curb Ramps facilitate wheelchair access. The Americans with Disabilities Act requires that sidewalks be wheelchair accessible. The City installs 300 to 400 curb ramps every year, targeting neighborhood business areas, transit access points, social service centers, and public requests.

Center Islands give pedestrians a refuge point in the middle of a wide street, allowing them to cross half the street at a time. Small center islands can also help slow traffic at unsignalized intersections.

Pedestrian Half-signals allow pedestrians to cross busy streets safely when cross traffic from a residential street does not justify a regular stoplight. These "crosswalk stoplights" stop traffic only when activated by pedestrians.

Mid-block Crossings place crosswalks in the middle of a block, generally with signals. While their usefulness is limited by safety concerns, they do work well in some situations, including long blocks in areas with heavy pedestrian activity.

Special Paving uses a contrasting material, such as brick imprints, to demarcate the crossing zone. This is an appropriate treatment as part of a street beautification program.

Signs such as "STOP FOR ME, IT'S THE LAW" can be effective if they are not overused. Such signs are most effective if they are moved around rather than left in one place, where they can become "background noise" to drivers.

All-way walk signals give pedestrians in all directions a walk signal. They are not appropriate for widespread application since they disrupt signal progressions and increase pedestrian wait times. However, there are limited applications where they can be installed without these drawbacks, and thus should be considered for those intersections.

ACTION 1: Develop an annual list of high-priority problem crossings. Work with neighborhood groups to develop specific designs for these locations.

ACTION 2: Upgrade these identified intersections and other crossings to improve their safety and convenience.

Trade-offs: Many of these strategies slow vehicle traffic. Installing curb bulbs and reducing curb radii can create problems for large vehicles, which need wider turning radii (see Strategy FM1.1).

Strategy W1.2 Mark and Maintain Crosswalks

Marked crosswalks often work well on streets with few lanes (ideally only two) and where traffic speeds are low. At the other end of the spectrum, it is generally not good policy to mark crosswalks on streets with six or more lanes and high traffic speeds. Motorists on such streets generally do not yield to pedestrians regardless of whether the crosswalk is marked, and marking one can create the illusion of safety.

The City's current policies for marking crosswalks use established guidelines and professional judgment to make decisions as to when--and when not--to mark crosswalks. How far along the continuum of "best to worst" locations the City should go is a matter of discussion. City-wide accident rates are low enough that collecting enough data to support a change is difficult. Although the City is frequently asked to mark crosswalks more aggressively, becoming too aggressive may increase the number of pedestrian accidents.

ACTION 1: Continue efforts to collect local data, review studies by other cities, and evaluate the trade-offs associated with marking crosswalks. Revise the City's policies guiding the marking of crosswalks if appropriate.

ACTION 2: Mark and maintain crosswalks as appropriate.

Strategy W1.3 Ensure Transportation Projects Do Not Create Pedestrian Barriers

The City works on two fronts to make street crossings safer and easier: 1) designing and building pedestrian improvements (see Strategy W1.1), and 2) making sure capital improvements designed for other purposes do not create difficulties for pedestrians--such as inappropriate pedestrian push buttons (see Strategy W1.5) or unsafe turning radii (see Strategy W1.1).

The City has staff and the Pedestrian Advisory Board who work to review projects and ensure that pedestrian concerns are accounted for in project design. They can review the installation of new

pedestrian push buttons and other City projects and plans to ensure that pedestrian interests are taken into account.

ACTION: Use the City's Bicycle and Pedestrian Program staff and the Pedestrian Advisory Board to review transportation projects and ensure that pedestrian interests are taken into account.

Strategy W1.4 Adjust Signal Timing to Support Walking

The timing of signals has a major impact on walking trips along major arterials. In pedestrian-oriented urban environments, signal cycles should be long enough for pedestrians to cross the street, yet change frequently enough to prevent long waits.

ACTION 1: Evaluate signal timing in areas with heavy pedestrian activity to determine the optimal timing that shortens pedestrian waits, provides adequate time for the average "slow pedestrian" to cross the street, and considers the vehicle flows through the intersection.

ACTION 2: Evaluate intersections identified as problems by neighborhood groups or community complaints, reviewing crossing times, pedestrian delays, competing needs, and other connected intersections as appropriate. Adjust signal timing when necessary and feasible.

Trade-offs: Longer walk signal times increase delays for cross traffic of all kinds (including pedestrians). Slowing traffic too much on arterials can divert cars to residential streets.

Strategy W1.5 Use Pedestrian Push Buttons Appropriately

Seattle's pedestrian push buttons are confusing, inconsistent, and generally unhelpful to many pedestrians. They can be compared to pushing the "Close Door" button on elevators. Push buttons are currently set to operate in different ways at different intersections. At some intersections, pedestrians will never get a walk signal unless the button is pushed, regardless of whether the light changes for vehicle traffic. At these intersections, the pedestrians may arrive and push the button before the vehicle light cycle changes, but too late to activate the pedestrian signal. They are then forced to wait through an entire cycle for a walk signal. At other intersections, the push buttons operate only at certain times (during the evening and night, for example).

Most push buttons are not a pedestrian improvement--they allow increased traffic flows on through streets by eliminating the need for an automatic walk signal. Yet push buttons have often been included as pedestrian amenities in grant applications to make a project more competitive.

Recent practice (over the last two years) has been not to install push buttons in areas or locations with high pedestrian activity, but to continue their use along corridors where pedestrian activity is infrequent. In mid-1998, SEATRAN developed new pedestrian usage criteria to help assess when push buttons are appropriate, when they are not, and how they should operate. SEATRAN is now using these new criteria to evaluate locations that have push buttons to see if the buttons should be deactivated for all or part of the day. SEATRAN is focusing this effort on push button locations that have been identified as problems in neighborhood plans.

ACTION 1: Continue the current practice of not using pedestrian push buttons in areas with high pedestrian activity, except at pedestrian-only signals such as mid-block crossings. In other areas

where pedestrian buttons are needed, set the response time on the pedestrian signal as quickly as possible, given the operations of the intersection.

ACTION 2: Using the new criteria, evaluate locations that have push buttons to see if the buttons should be deactivated for all or part of the day. Deactivate and remove existing push buttons in areas with high levels of pedestrian activity (removal can be coordinated with other projects or regular maintenance).

ACTION 3: Do not characterize push buttons as pedestrian improvements in grant applications where they are intended as motorized traffic improvements. Continue to seek funding for improvements that actually benefit pedestrians.

Strategy W2 Improve the Sidewalk System

Sidewalks are the foundation of the pedestrian transportation system. There are more than 144 miles of sidewalks on arterial streets and over 169 miles of sidewalks in residential areas. But there are also major gaps in the system. Nearly 100 miles of city streets do not have sidewalks. Many existing sidewalks need to be repaired and improved. The following strategies will improve Seattle's sidewalk system.

Strategy W2.1 Extend the Sidewalk Network

About 17 miles of Seattle's arterial streets and 78 miles of residential streets are missing sidewalks on either one or both sides of the street.

Installing traditional sidewalks is very expensive. They must be accompanied by street and drainage improvements as required by the City's Street Design Manual and the Stormwater, Grading, and Drainage Control Code. Construction requirements include the street surface, curbs and gutters, the sidewalk itself, and in many cases, a formal storm drainage system. The total cost can range from $1.8 - $4.5 million per mile for one side of the street.

The City may be able to accelerate the expansion of its sidewalk network in residential areas by developing alternative designs that reduce overall costs. City staff have recently developed a number of options, including asphalt and concrete walkways with a low-cost curb.

ACTION 1: Develop a prioritized list for sidewalk completion.

ACTION 2: Install sidewalks on arterial streets, based on this prioritized list.

ACTION 3: Further develop and test installation of alternative reduced-cost sidewalk designs on residential streets. Consider amending the City's Street Design Manual to accommodate new design alternatives.

Strategy W2.2 Repair and Improve Existing Sidewalks

There is a tremendous need for improvements to existing sidewalks that are either inadequate or in disrepair. Sidewalks crack and buckle due to tree roots, construction, heavy vehicles, and weather damage. Sidewalks also need improvements such as wheelchair ramps and widening. The City

needs to evaluate how it shares responsibility with property owners for sidewalk repair and installation (see Strategy W2.3). The City can also incorporate sidewalk improvements into street and utility capital improvement and major maintenance projects (see Strategy A1).

ACTION 1: Work with property owners to repair and improve existing sidewalks, based on clearly defined responsibilities and polices in accordance with Strategy W2.3.

ACTION 2: Incorporate sidewalk improvements into capital improvement and major maintenance projects when possible.

Strategy W2.3 Evaluate Policies Governing Responsibility for Sidewalk Installation, Repair, and Improvement The City has varied and evolving policies on responsibility for sidewalk construction and repair depending on the circumstances. Historically, most sidewalk work has been the responsibility of adjacent property owners. The City has started to build sidewalks as it rebuilds streets and is now proposing to install new sidewalks along arterials. The City's role in maintenance is also changing. While the City has traditionally helped repair sidewalks only if they were damaged by City-owned street trees, SEATRAN is now implementing a new program to help share the cost for other sidewalk repairs with property owners.

As the City begins to play a larger role in sidewalk installation and repair, it needs to establish clear guidelines for when it will assume or share responsibility for sidewalk installation and repair. The City should also review the differences in how it treats facilities for pedestrians (sidewalks) and motor vehicles (streets).

ACTION: Clarify policies governing responsibility for sidewalk installation, repair, and improvement, based on current plans, goals, and priorities.

Strategy W3 Improve Sidewalk Lighting

Seattle's street lighting illuminates the streets, but often misses the sidewalk and intersection or is blocked by trees. The basic options for improving sidewalk lighting are to trim street trees or install pedestrian-level lights. Both increase real and perceived safety for people walking at night. Bus riders consistently request better lighting along sidewalks to and from bus stops.

Sidewalk or pedestrian-level lighting can be installed relatively easily on the backs of existing poles, but the greatest improvement is achieved when additional poles are installed in-between existing light poles (or even between each tree). Depending on their placement, these lighting fixtures can illuminate sidewalks, intersections, and stairways.

ACTION 1: Work with King County Metro to identify popular walking routes to and from bus stops that will benefit from sidewalk lighting improvements.

ACTION 2: Work with King County Metro and Sound Transit to implement improvements and to use lighting and visibility design strategies as crime prevention measures for transit stations and bus stops.

Strategy W4 Use Design Standards that Make Walking Safer and More Attractive

The City uses design and specification standards as well as the Land Use Code to improve pedestrian conditions in several ways:

- Guidelines for how streets and sidewalks are built or rebuilt to make sure they support pedestrian and transit access (e.g., providing curb ramps on sidewalks, appropriate curb radii).

- Requirements and guidelines for new developments to ensure that they help create a pedestrian-friendly environment (e.g., placing parking lots behind buildings, limiting the number of driveways, avoiding large blank walls). These requirements are established through zoning, street classifications, and the design review process (see Strategy W4.2 and Strategy N4.1).

- Streetscape design guidelines that require landscaping, lighting, and other improvements that make streets attractive to pedestrians (see Strategy N2).

The following strategies aim to improve the City's use of pedestrian-friendly design standards.

Strategy W4.1 Review Street Design Standards to Ensure They Support Pedestrian Needs

The Seattle Street Design Manual and other City documents establish requirements and design standards for streets and other transportation facilities. Updating these documents will increase emphasis on pedestrian-friendly urban design. Such standards ensure that SEATRAN and Seattle Public Utility projects follow pedestrian-friendly guidelines in the design, review, and construction of street improvements. These standards include right-of-way widths, sidewalk widths, curb radii, utility pole placement, street tree locations, driveway and ramp design and location, landscape buffers, non-slippery materials, and safe access to buildings.

Design standard updates require a comprehensive process that involves review by staff and advisory boards responsible for a broad range of concerns (i.e. pedestrians, bicycles, trucks, public transit).

ACTION: Review and update the Street Design Manual and other related City documents to ensure that they provide street improvement designs that support the full range of pedestrian needs and facilities, including appropriate standards. Involve the Pedestrian Advisory Board and the Bicycle Advisory Board in the review.

Strategy W4.2 Simplify System for Designating Key Pedestrian Streets

The Comprehensive Plan calls for designating Key Pedestrian Streets within the highest-density portions of urban villages and along logical connections between villages. The designation is appropriate for streets that 1) serve as important pedestrian destinations and have high levels of pedestrian activity; 2) provide the primary pedestrian connections between important neighborhood

destinations, including parks, schools and other community facilities, and commercial areas; and 3) provide an area's principal access to transit.

The designations are intended to ensure that new developments and street improvements contribute to a pedestrian-friendly environment. They can also help prevent actions that may harm the pedestrian environment by prioritizing pedestrian needs over other considerations. Finally, they can help focus City investments in pedestrian improvements.

The City currently has several designations and requirements affecting the street right-of-way and new developments that promote a pedestrian-friendly environment. They include:

- Seattle Comprehensive Transportation Program: The Seattle Comprehensive Transportation Program (SCTP) includes the Key Pedestrian Street designation, applied to a limited number of commercial, institutional, and recreational locations. The SCTP designation is not linked to any specific design or use requirements.

- Sub-area plans: Sub-area plans in the Land Use Code establish a variety of pedestrian street classifications in areas such as Downtown Seattle, Northgate, and the Cascade neighborhood. These classifications regulate the design and function of new development to promote an active and attractive pedestrian environment.

- Zoning Overlays: The P1 and P2 Zoning Overlays in the Land Use Code are special pedestrian overlay zones that currently apply to portions of 23 neighborhood commercial areas throughout the city. Development within this overlay is subject to certain standards to enhance the pedestrian environment.

- Green Streets: The City also has Green Street designations (See Strategy N6: Expand Use of Street Rights-of-Way for Public Open Space).

These policies, designations, and associated requirements were developed at different times to address different aspects of the pedestrian environment. The City needs to coordinate and integrate these designations to reduce confusion and to ensure their application is effective and consistent.

The designations must be adaptable enough to protect and improve pedestrian conditions in a wide range of settings. Neighborhoods should have the flexibility to tailor some provisions to respond to unique neighborhood conditions and development objectives identified in neighborhood plans.

ACTION 1: Consolidate the objectives and classifications within the Comprehensive Plan, the SCTP, and the Land Use Code to develop a simple system for designating Key Pedestrian Streets, with accompanying code requirements.

ACTION 2: Work with neighborhoods and the neighborhood planning process to identify and designate Key Pedestrian Streets.

ACTION 3: Assist in developing plans and funding strategies for pedestrian improvements on designated Key Pedestrian Streets.

See also Strategy N4: Encourage Transit and Pedestrian-oriented Development. It proposes to establish additional pedestrian-friendly design requirements.

Strategy W5 Ensure that New Federal Transportation Law Gives Fair Funding Treatment to Pedestrians

Many pedestrian improvements are funded by federal and state grant programs. The federal government recently reauthorized the federal transportation law, now called the Transportation Equity Act for the 21st Century (TEA21). The law increases federal transportation funding substantially, including funding for non-motorized facilities.

The Transportation Enhancements funding program in TEA21 provides about $3.3 billion (authorized over six years) in federal funding potentially available for non-motorized projects around the country. However, a wide variety of transportation related projects can be funded under the Enhancements program, including transportation museums, scenic and historic byways, and about ten other categories. This program has provided significant funding for pedestrian and bicycle projects in Seattle over the last six years, through a locally-driven project selection process managed by the Puget Sound Regional Council (PSRC). Seattle should work to ensure that the State continues to use this process.

It is also important that the State and the PSRC adopt prioritization criteria for these grant programs that ensure pedestrian projects are competitive. The City should continue to advocate for funding criteria that support pedestrian projects.

ACTION: Work with the Puget Sound Regional Council, the Washington State Department of Transportation, and the State Legislature to ensure that TEA21 funding programs and funding criteria, particularly for the Transportation Enhancements program, are pedestrian-friendly and reflect the judgments of local governments and the PSRC.

Strategy W6 Support Innovative Pedestrian Projects

The City should experiment with innovative ways to promote walking and/or increase pedestrian safety. New strategies should be tried on a smaller scale and may work only under specific circumstances.

Strategy W1: Make Street Crossings Safer and Easier describes several innovative crossing treatments from the City's Making Streets That Work notebook. Solutions to crossing problems may call for innovative and creative thinking, especially in terms of making crossings ADA accessible. Examples of potential projects are:

- "In-Pavement Warning Lights" consist of a series of amber LED flashing lights that line crosswalks, placed in the pavement. The lights flash for pedestrians during the regular walk signal. The City is installing a demonstration project near Seattle University as a mid-block crossing on East James Way. Many cities in California and Kirkland, Washington have used this technique successfully.

- Installation of day-glow green pedestrian crossing warning signs improves the visibility of signs. The City currently installs standard black on yellow signs. Moving pedestrian signs around a neighborhood so that they continue to attract motorists' attention also makes sense (see Strategy W1.1).

ACTION: Test innovative pedestrian projects in selective demonstrations around the City where appropriate.

BICYCLING

Bicycling is a critical part of Seattle's transportation system. It provides personal benefits to bicyclists as well as environmental and traffic-related benefits for the entire city. It is healthy, nonpolluting, and helps reduce traffic congestion.

Seattle has long been recognized as a national leader in supporting bicycling, despite the hilly terrain and rainy weather. The hard work of City departments and citizens has made bicycling in Seattle much more pleasant and attractive. An estimated 36 percent of Seattle's 531,000 residents bike for recreational purposes and between 4,000 and 8,000 people bike to work each day, depending on the weather and the time of year. The nationally-recognized Burke-Gilman trail, dedicated in 1979, currently carries over 2,500 bicyclists and pedestrians daily from northern Seattle neighborhoods to the University of Washington, Fremont, and Ballard. The City's bicycle facilities are good investments--people use them. Between 1992 and 1995 during which the City established four new bicycle lanes into the Downtown area, there has been a 29 percent increase in the bicycle commuting rate. Overall, Seattle has about 28 miles of bike trails, 14 miles of striped bicycle lanes, and about 90 miles of signed routes.

Seattle residents like these facilities and want more of them. In recent polls of city residents, almost 60 percent of those polled thought that the City should do more to support bicycling.

Bicycling has excellent potential to play an even more important role in the City's future. This TSP section includes strategies that continue and expand Seattle's commitment to bicycling for transportation and recreational purposes. Other strategies that address bicycling include: Strategy A1: Incorporate Improvements into Capital Projects and Strategy A4.1: Traffic and Parking Enforcement and Education. There are also bicycling-related strategies in Chapter III: Protecting and Enhancing Neighborhoods.

Strategy B1 Complete and Expand the City's Urban Trails System

The City needs to complete and expand Seattle's network of bicycle routes. These routes provide transportation connections and recreational experiences throughout the city. Examples are separated off-street bike trails, painted bicycle lanes, signed bike routes, and the proposed bicycle ways. The Urban Trails System map shows the existing, funded, and planned facilities.

This strategy meets the Comprehensive Plan policy to provide, maintain, and accelerate the development of bicycle facilities in, around, and between urban centers, urban villages, and other key locations. Connecting various parts of the existing system within the city and to the regional trails system is also important.

Off-street bike trails: Off-street bicycle trails such as the Burke-Gilman, Duwamish, and Interstate-90 trails provide excellent transportation and recreational options. While these trails can be more expensive than other types of bicycle routes, being "off-street" (separated from motor vehicles) makes them attractive for recreation as well as for commuters looking to avoid conflicts with auto traffic. Construction of bike trails is limited to available rights-of-way, primarily abandoned rail lines and utility corridors.

On-street bike lanes: Striped bicycle lanes such as the one along Dexter Avenue from Fremont to Downtown Seattle create safer bicycle corridors on the city's existing street network. Bike lanes carve out space for bicyclists among motor vehicle lanes, and they send a signal to drivers that bicyclists also have a right to use city streets. Studies show that cities with a large proportion of bike lanes compared to roadway miles have three times more bicycle commuters than cities with few bike lanes. These projects are less expensive than off-street bike trails.

Signed routes: Routes with "Bicycle Route" and "Share the Road" signs can help bicyclists figure out how to get somewhere safely and easily. "Spot" signing can direct bicyclists through complicated areas. "Continuous route" signing, used less frequently by the City, can identify regional recreational routes or destinations such as a preferred route to get to Sea-Tac airport or the loop around Lake Washington. Painting bicycle symbols on arterial streets in places where striped bike lanes are not appropriate can communicate to motorists about the presence of bicyclists and direct bicyclists along safer routes.

Bicycle ways: Biking down a busy Seattle street can be nerve-wracking and dangerous, especially for children. Bicycle ways can help bicyclists travel more directly and quickly to their destination, while avoiding streets with heavy traffic volumes. Distinctive identifying signs, traffic calming, and traffic restriction measures would create a network of protected bicycle ways along neighborhood streets. Safety measures would include providing adequate sight-distances at intersections and driveways as well as repairing pavement and removing dangerous grates. Bike-sensitive loop detectors (signal technologies that sense bicycles as well as other vehicles) would be installed at signals where bicycle ways cross arterial streets. Other treatments may also be appropriate to help bicyclists cross arterials safely.

ACTION 1: Implement trails, lanes, routes, bicycle ways, and other identified facilities to fill gaps in the existing and planned bicycle transportation network as appropriate.

ACTION 2: Amend the designated Urban Trails System map as necessary.

Strategy B2 Make Improvements to Reduce Barriers and Resolve Bicycle Safety Problems

While special bicycle facilities are important, 70 percent of bicyclists travel along un-designated streets. These bicyclists must contend with a host of location-specific obstacles. These barriers also discourage many potential bicyclists. Barriers can range from freeways and wide roads that are difficult or impossible to cross (e.g. Aurora Avenue between Denny and the Aurora Bridge), to the lack of bicycle parking at destinations, and unsafe but important transportation corridors.

The City's bicycle program goes beyond providing special bicycle facilities. It improves arterial and residential streets for bicycle safety and responds to citizen requests for improvements. The City's Bicycle Spot Improvement Program installs low-cost improvements that make bicycling safer and more convenient, including the following types of projects:

- Patching potholes, modifying traffic islands, and replacing drain grates that are hazardous to bike wheels

- Signing and striping motor vehicle warning signs at trail crossings

- Ensuring that vehicle-detectors at traffic lights respond to bicycles as well as cars

- Installing bike racks along arterial public rights-of-way (also addressed in Strategy B5)

ACTION 1: Identify these location-specific barriers and potential solutions with community input and through input from neighborhood plans. Implement solutions based on a prioritization system that funds the most cost-effective and useful facilities.

ACTION 2: Continue making spot improvements that make bicycling on streets safer and more convenient.

ACTION 3: Provide for bicycle access in the design of diverters and other treatments intended to reduce motor vehicle traffic on residential streets.

Strategy B3 Ensure that Bicycles Can Cross Bridges Safely and Conveniently

The City operates and maintains 138 bridges within the City limits. Most bridges provide good access for pedestrians and bicyclists. When bridges are replaced or rehabilitated, providing safe, direct, and convenient pedestrian and bicycle access across the bridge and the bridge approaches is critical. Such facilities should also be directly connected to the City's Urban Trails System if close to existing or planned trails.

ACTION 1: When the City's bridges are replaced or rehabilitated, work to ensure that pedestrians and bicyclists are given safe, direct, and convenient access across the bridge and along the approaches to bridges.

ACTION 2: When conditions warrant, implement appropriate measures to give bicyclists and pedestrians access across the bridge during the construction phase.

Strategy B4 Provide Street Space for Bicyclists

Building streets to design standards that are bicycle-friendly can increase the comfort, convenience, and safety of bicycling on all streets. Maintaining street space is important to bicycling.

The Seattle Street Design Manual and other City documents contain a number of road design standards that can make bicycling safer and easier. One such standard is to provide a 14-foot curb lane along arterial streets when streets are reconstructed or re-configured.

In addition, bicycle needs can compete with on-street parking. The Comprehensive Plan calls for making the best use of the City's limited street capacity by balancing competing uses. Bicycle facilities should be the priority where their need for space on arterial streets competes with free, long-term, commuter parking.

ACTION 1: As recommended by the Street Design Manual, provide a 14-foot curb lane when building, reconstructing, or reconfiguring city streets, where possible. Install a painted bike lane where appropriate.

ACTION 2: Give bicycle facilities priority over free, long-term, commuter parking on arterial streets.

Strategy B5 Encourage Installation of Safe and Convenient Bicycle Parking

The City currently operates a very successful bicycle rack placement program along arterial rights-of-way, as part of the Bicycle Spot Improvement Program (see Strategy B2). Since 1982, almost 1,900 racks have been installed. The two-bike rack is unobtrusive and requires little maintenance. Larger racks are available if necessary.

It is also important to provide bicycle parking and other related facilities in buildings, especially for bike commuters who need safe, long-term storage for their bicycle and related belongings. The Land Use Code requires developers to provide bicycle parking for multi-family dwelling units in some multi-family and commercial zones (L2, L3, MR, HR, and SCM); all institutions in multi-family zones; and any land use with more than 20 auto parking spaces in downtown Seattle as well as some neighborhood commercial and commercial zones (NC1, NC2, NC3, C1, and SCM). The requirement is in proportion to the number of units or automobile parking spaces. Larger administrative offices and manufacturing uses can install bicycle parking in lieu of automobile parking spaces. In addition, the City's Commute Trip Reduction ordinance encourages employers to install bicycle parking facilities and showers for employees that walk and bike to work.

The City should review these policies to ensure that enough bike parking is being installed and maintained in new buildings. An incentive or recognition program could be developed if increases are necessary. In addition, public facilities and community centers should provide bicycle parking.

ACTION 1: Continue to install bike racks through the City's Bike Spot Improvement Program.

ACTION 2: Review the City's Code requirements for bicycle parking and the installation of bicycle parking in buildings to ensure that enough is being installed to meet demand and to encourage additional bicycling.

Strategy B6 Ensure that New Federal Transportation Law Gives Fair Funding Treatment to Bicycles

Many bicycle projects are funded by federal and state grant programs. The federal government recently reauthorized the federal transportation law, now called the Transportation Equity Act for the 21st Century (TEA21). The law increases federal transportation funding substantially, including funding for non-motorized facilities.

The Transportation Enhancements program in TEA21 provides about $3.3 billion (authorized over six years) in federal funding potentially available for non-motorized projects nationwide. However, a wide variety of transportation related projects can be funded under the Enhancements program, including transportation museums, scenic and historic byways, and about ten other categories. This program has provided significant funding for pedestrian and bicycle projects in Seattle over the last six years, through a project selection process conducted by the Puget Sound Regional Council (PSRC). Seattle should work to ensure that the State continues to use this process.

It is also important that the State and the Puget Sound Regional Council adopt prioritization criteria for these grant programs that ensure bicycle projects are competitive. The City should continue to advocate for funding criteria that support bicycle projects.

ACTION: Work with the Puget Sound Regional Council, the Washington State Department of Transportation, and the State Legislature to ensure that TEA21 funding programs and funding criteria, particularly for the Transportation Enhancements program, are bicycle-friendly and reflect the judgments of local governments and the PSRC.

Strategy B7 Support Innovative Bicycle Projects

The City of Seattle's bike and pedestrian programs are nationally-recognized for their innovative work, including the City's Bike Spot Improvement Program that installs bike racks along public arterial rights-of-way. The City should continue to experiment with innovative ways to promote bicycling and increase safety. New strategies may require smaller-scale testing and may work only under specific circumstances. Examples include:

- Left-turn lane pockets that allow bicyclists to cross medians or other traffic control devices, such as at 8th Avenue NW on NW 77th Street.

- Installing "share the road" signs and painted bicycle silhouette symbols on streets that have significant bicycle traffic but where bicycle lanes are not appropriate.

ACTION: Test innovative bicycle projects in selective demonstrations around the city where appropriate.

TRANSIT

The Comprehensive Plan calls for convenient, frequent, reliable, and competitive transit service. It also calls for a doubling of transit ridership in the city by 2010--an increase of about 100,000 trips per day above and beyond any new riders generated by Sound Transit. This is clearly a very aggressive target. To achieve such an increase, the City and the region's transit agencies will need to take extraordinary measures to improve transit service and make it more attractive.

The City does not manage any of the major transit systems that operate within its borders, but it does own the street rights-of-way. The way Seattle manages its streets has a major influence on transit's speed and reliability. The City also has seats on regional bodies that make decisions about transit and has the authority to regulate parking. The cost and availability of parking influence transit ridership as much as the quality of the transit service. The TSP's parking strategies are provided in Chapter VI.

The Transportation Strategic Plan's transit strategies focus on several different areas:

- Improving transit speed and reliability (Strategies T1, T2)

- Making transit convenient, understandable, and easy to use (Strategies T1, T3)

- Establishing transit service priorities (Strategy T4)

- Developing new transit services (Strategies NT1 - NT3)

Why People Choose Transit

The TSP strategies reflect research findings on what matters to urban transit riders. The following key factors influence people's choices:

Parking. The cost and availability of parking is as important a factor in the choice to use transit as any attribute of the transit service itself. A 1993 King County Metro study found that in Downtown Seattle, 66 percent of the employees with free or subsidized parking drive alone to work, compared to only 20 percent of those who must pay for parking.

Reliability. Service should get people where they are going at the same time every day, regardless of weather, accidents, congestion, bus breakdowns, and other sources of delay.

Travel time. Travel time is second in importance to reliability. Transit typically takes at least twice as long and often three or more times as long as comparable trips by car. There are two basic ways to reduce travel time:

- More frequent service (reduces the time spent waiting at stops and transfer points)

- Faster service (avoids traffic delays, spends less time at stops, and stops less often)

Convenience, comfort, and security on the transit system is also important.

- Coverage: how close transit goes to your destinations

- Ease of transfers: knowing how and where to transfer, having a comfortable place to wait, and having a short wait

- Safety: feeling safe walking to and from the stop and riding the bus

- Understandability: being able to plan a trip, knowing when the service comes and where it goes, and being able to travel without maps or schedules

Fast, frequent, reliable service is more important than service on every block. Good urban transit service is defined less by coverage (how close together the routes are) and more by frequency and speed. Ten-minute service on major routes a half-mile apart (meaning a maximum quarter mile walk for those living in between) will attract more ridership than twenty minute service on routes a quarter mile apart. These service decisions must be balanced with making service accessible for people with disabilities and other mobility concerns.

In an urban environment, transit is an extension of the foot. Transit and walking are complementary, not alternatives to each other. Walking is the ideal mode for short trips; transit extends the range of walking trips by many miles.

Strategy T1 Develop and Implement the Seattle Transit Initiative

The Seattle Transit Initiative is a partnership between the City, King County Metro, Sound Transit, the Washington State Department of Transportation (WSDOT), and the Elevated Transportation Company (ETC), aimed at improving Seattle's transit service. The Initiative seeks to:

1. Improve Seattle's existing bus transit service. Strategies T2 and T3 offer a variety of ways to make Seattle's existing transit service faster, more reliable, and more attractive. The Seattle Transit Initiative is pursuing the implementation of these improvements.

2. Develop new, locally-oriented, higher-capacity transit services for Seattle. Strategies NT1 and NT2 focus on opportunities to develop new transit options for Seattle residents that would complement existing local and developing regional transit services.

There are a number of neighborhoods and travel corridors in Seattle where higher capacity transit services could be a cost-effective way to improve mobility. These services would provide more capacity, speed, and reliability than existing bus service, but would be more locally-oriented and have lower impacts than a grade-separated rail system. The options for higher capacity transit services include traditional rail technologies (streetcars and surface light rail) as well as monorails and other alternative technologies.

3. Create a stronger partnership between the City and the agencies that provide Seattle's public transit--strengthening efforts to improve public transportation serving Seattle.

Seattle's public transit is and will be provided by several different agencies and companies. King County Metro provides local and some regional bus service. Sound Transit is building a regional system of commuter rail, light rail, and express bus service. The ETC is exploring options for new monorail service. WSDOT operates the ferry system as well as state and interstate highway facilities. The City of Seattle owns and operates the streets--the right of way for most of Seattle's transit service. Meeting the city's public transit needs requires an effective partnership between all of these partners, as well as other providers like AMTRAK, Community Transit, and Pierce Transit.

The partners have signed a memorandum of understanding and approved a work plan designed to achieve the goals outlined above.

ACTION 1: Work with Seattle Transit Initiative partners to fund speed and reliability improvements for existing bus service.

ACTION 2: Develop new, locally-oriented, higher capacity transit options for Seattle (see Strategy NT2).

ACTION 3: Strengthen collaboration and coordination between Seattle's transit providers.

Strategy T2 Improve Transit Speed and Reliability

The strategies for improving transit speed and reliability include: 1) strategies that reduce the time spent loading and unloading passengers, and 2) strategies that speed buses in traffic. A typical city bus spends about half its time traveling and about half its time at stops. The following strategies are ways the City can help speed buses and improve reliability.

Strategy T2.1 Reduce Bottlenecks Where Buses Get Caught in Traffic

Speeding buses through traffic requires spot improvements at problem locations all over the city, including bus-only lanes, transit signal queue jumps, center loading islands, counter-flow lanes,

enlarged turning radii, peak and all-day parking restrictions, re-configured travel lanes, and passing wires for trolley buses. Two types of improvements receive additional attention below (signal preemption and bus bulbs).

ACTION: Work with King County Metro to review bottlenecks and delays for the city's transit routes, design appropriate solutions, and implement them.

Trade-offs: This strategy includes a wide variety of treatments. Some of them would have no effect on other transportation system users and some would reduce the space available for cars and other vehicles. Some arterial high-occupancy vehicle lanes can create safety problems with left turn conflicts. Wider curb radii undermine pedestrian safety.

Strategy T2.2 Give Buses Green Lights at Intersections with Signal Preemption

Signal preemption technology can help turn red traffic lights green for buses when they approach intersections, thereby improving their travel time. King County Metro and the City are currently experimenting with a signal priority project on Rainier Avenue South. Stoplights can also be timed to favor buses. Giving more green time to buses maximizes the people-carrying capacity of the intersection.

ACTION: Work with King County Metro to develop and implement signal priority projects as one option for speeding buses in traffic. Work with King County Metro to revise traffic signal timing sequences as appropriate to help buses.

Trade-offs: Cross-traffic on non-transit streets may lose some green time at traffic lights.

Strategy T2.3 Reduce Delays to Buses Leaving and Re-entering Traffic

Buses often experience substantial delays leaving and re-entering traffic at bus stops. There are several options for reducing these delays.

First, bus bulbs extend the sidewalk across the parking lane into the street at the bus stop, allowing buses to pick up and drop off passengers while stopped in the travel lane. Buses do not have to wait to re-enter traffic, saving as much as 30 to 90 seconds per stop. The bulb also provides wider sidewalk space so that waiting passengers and bus shelters do not block the sidewalk. There are bus bulbs located along NW Market in Ballard and Third Avenue downtown. There is also a bus bulb pilot project on University Way NE.

Bus bulbs are most effective in locations with substantial congestion, where a bus has difficulty re-entering the traffic stream. They are usually not appropriate unless there are two or more lanes in each direction.

Second, Washington State law requires motorists to yield the right of way to buses re-entering traffic, which should help in areas without bus bulbs. However, many motorists do not obey this law. Better enforcement and education of motorists may help to increase obedience of this rule. Educational strategies include better signs on buses (the existing yield signs on the rear of Metro buses are small and ineffective) and on the street in problem areas. Enforcement strategies could include an "emphasis campaign" where officers target problem areas with substantially increased enforcement for a brief period of time.

Finally, illegal parking of automobiles in bus stop zones can slow access to stops and can delay loading and unloading of passengers. If a disabled passenger needs the wheelchair lift to get on or off the bus, an illegally parked vehicle may eliminate access all together.

ACTION 1: Work with King County Metro to install bus bulbs in prioritized locations.

ACTION 2: Work with King County Metro to deploy more effective "yield to buses" signs. Develop "emphasis campaign" targeting violations of the yield to buses law and illegal parking at bus stops.

Trade-offs: Buses stopped at bulbs block the travel lane and delay other traffic, which can include other buses. However, a full bus stopped in traffic during rush hour is replacing between 50 and 80 cars, a line about six city blocks long. Auto drivers that may be delayed are still better off than if the bus riders were also in motor vehicles.

Strategy T2.4 Consolidate Bus Stops

The more often buses stop, the slower they travel. Bus stops are generally placed every two blocks on local service routes in Seattle. Most express routes have a limited-stop segment (which bypass many stops along the route), coupled with a local service segment.

For some routes, either local or express, there may be instances where the elimination of a bus stop improves the overall route performance without significantly impacting access. Relocating a stop can also increase efficiency. In every case, there are many factors to consider before making changes:

- Impacts to current riders, including extending the walking-access route beyond a reasonable distance or across significant pedestrian barriers (e.g., hills and heavy traffic streets).

- Creating "bottleneck" stops, where a large number of passengers are loading and unloading.

- Safety concerns, such as nighttime service lighting and walking distances.

- Travel time savings from stop changes relative to overall route travel time.

- Impacts to riders that already find it difficult to access the stops along a route, including people with disabilities.

Eliminating or moving a single stop can be quite difficult, given the potential impacts on riders and businesses.. Consolidation/relocation efforts must include intensive public involvement to evaluate rider impacts, as well as an effective passenger education program emphasizing the overall benefits for current riders. Ideally, transit routes chosen for this strategy should receive accompanying service and stop improvements. When locating specific stops, special attention must be given to keeping stops that serve significant numbers of people for whom the additional walk distance would be a burden.

ACTION: Work with King County Metro to develop a prioritized list of target transit routes and corridors where stop consolidations will create substantial gains in operating efficiency without

causing undue burdens to riders. Work with King County Metro and neighborhoods to assess the feasibility and implementation of bus stop consolidations.

Strategy T2.5 Switch to Low-floor Buses

Low-floor buses speed passenger loading and unloading by eliminating the steps required to enter the bus. This reduces delays at stops, both for passengers and for traffic behind the bus. The bus's floor is almost level with the curb, making it easier for all passengers, particularly those with disabilities, wheelchairs, small children, strollers and packages, to get on and off the bus. Many thousands of low-floor buses are currently in use throughout Europe and North America.

ACTION: Encourage King County Metro to buy low-floor buses and to operate them in Seattle.

Trade-offs: Low-floor buses have six fewer seats on average. On very crowded trips, more passengers will have to stand.

Strategy T2.6 Encourage More Efficient Fare Collection Systems

Seattle's downtown Ride-Free Zone requires passengers to pay their fares upon exiting when traveling away from downtown. This speeds loading in the downtown, but can greatly slow the buses outside of downtown, when passengers on crowded buses are forced to make their way to the front door to pay their fares and exit. There have been a number of fare proposals that emphasize pre-paid fares and make an all-day pass the basic cash fare. Pass-holding passengers could load at all doors; cash passengers would use the front door and get a transfer as proof of payment. Most cash riders would pay only once per day in the morning; by the afternoon peak, almost everyone on the bus would have a pre-paid fare. Fares would be enforced by inspectors who would also provide added security on the buses. Reducing on-board fare payments would also alleviate conflicts between drivers and passengers. Any new systems would have to be coordinated with efforts to develop an integrated regional fare system.

ACTION: Work with King County Metro and other jurisdictions and transit agencies to develop more efficient fare payment systems.

Trade-offs: Transit agencies may lose some fare revenues due to increased fare evasion and may also need to provide additional enforcement. These costs should be at least partially offset by increases in operating efficiency, especially on routes with high ridership.

Strategy T3 Make Transit Convenient, Understandable, and Easy to Use

More people ride transit when:

- Transfers are easy and quick

- The system is visible, comprehensible, and easy to use

- They feel safe walking to and from the stop, at the stop, and on the bus

The following strategies can help achieve these goals.

Strategy T3.1 Make Bus Stops and Transfer Points More Visible and Comfortable

King County Metro and the City can make waiting for the bus a more attractive experience by developing "super stops" or "mini bus stations" throughout the city. Super stops would be enhanced with wider sidewalks, better lighting, more shelters, seating, telephones, and clocks. Ideally, super stops would be paired with commercial services such as coffee stands, newspaper kiosks, dry cleaners, and other development. In addition to business districts, appropriate locations for super stops would be major attractions such as parks, the zoo, libraries, schools, and major transfer points.

Bus stop upgrades are an excellent opportunity to leverage private investment. There are a number of private companies that are willing to upgrade bus shelters, install amenities (including toilets, newsstands, and telephones), and provide maintenance in return for advertising revenues, if advertising is integrated into the stop design.

ACTION 1: Work with King County Metro to identify appropriate locations for super stops and pursue opportunities for private investment.

ACTION 2: Work with King County Metro to design and develop bus stop improvements.

Strategy T3.2 Improve Bus Service Information

Confusion about bus service discourages potential riders. Even daily riders will hesitate to go to an unfamiliar place on the bus. The problem is easy to describe, but it is not easy to fix. Map makers, graphic artists, and computer specialists have all been working on this problem for decades. This strategy fits into a citywide system (see Strategy A6) that combines kiosks, printed maps and schedules, telephone information, and real-time displays at transit stops (see Strategy T3.3).

ACTION: Work with King County Metro to create city-centered and neighborhood-centered maps (including a downtown map) and schedules showing routes, frequencies, connections, and local buildings and services. Display them at stops, businesses, and other destinations in printed materials and electronically.

Strategy T3.3 Provide Real-time Bus Information

The technology is now available to provide real-time bus arrival information at bus stops. Examples include the "Countdown" system, the Seattle Time Saver project, and King County Metro's BusView project. "Countdown" is a system that displays the arrival times of the next several buses on a particular route at each stop. While the system does not change arrival times, passengers surveyed did perceive the service as more reliable and minded the wait less. Others said they felt safer waiting for the bus at night. Real-time arrival information also helps passengers to choose among alternate routes.

The Seattle Time Saver project is a federally funded, inter-jurisdictional effort that includes providing real-time arrival information at transit centers. King County Metro is also testing a prototype system called BusView that displays the locations of buses in real-time.

ACTION: Continue to explore the development of real-time information systems for bus riders at central stops/major transfer points and support the testing of available technology in demonstration

projects. Assign City staff to participate in existing projects and make recommendations for future implementation.

Strategy T4 Establish and Implement Transit Service Priorities

Seattle needs a clear, updated plan for allocating transit service. Sound Transit and King County Metro service developments have tremendous implications for Seattle. The City needs to play an active role in making sure the service works well for Seattle residents and meets the City's goals. Sound Transit's light rail line in Seattle will replace some of the city's highest performing bus routes, providing greatly increased service and allowing the reallocation of approximately 100,000 bus hours. King County Metro's Six-year Plan includes 127,000 new service hours for Seattle/North King County and 51,000 hours to maintain schedules on increasingly congested streets. Altogether, these service hours represent a 20 percent increase in Seattle's bus hours. If speed and reliability strategies reduce the need for additional schedule maintenance hours, then those hours can also be invested into new or improved service.

Strategy T4.1 Allocate Transit Service to Achieve Basic Mobility and Ridership Goals

The TSP proposes that the City's transit service goals should be:

- To provide a basic level of transit service throughout the city, that ensures a minimum level of mobility for city residents and reinforces walking, bicycling, and transit as the preferred modes for in-city trips

- To maximize ridership

- To support housing strategies by improving transit service in the areas of the city with the highest densities and in areas where density is increasing (see Strategy N4.4)

- To achieve these goals, the City will work with King County Metro to allocate transit service improvements in accordance with the following criteria, listed in priority order:

- Maintain a basic level of service on routes connecting the city's urban villages and major activity areas (see Strategy T4.4).

- Improve peak-period frequencies on the city's highest-performing routes.

- Improve mid-day frequencies on the city's highest-performing routes.

- Improve evening and night frequencies on routes that have the highest ridership during these periods.

- Some funds should be reserved for investments in developing new transit markets as well as testing new, innovative services and technologies.

These priorities will need to be adjusted as part of planning for Sound Transit's light rail service, to account for the need to deploy feeder services (see Strategy ST7: Promote Effective and Fair Redeployment of Transit Service).

ACTION: Establish specific route-level priorities for new transit service hours based on the preceding criteria. Work with King County Metro and other transit service providers to allocate transit service in accordance with the City's priorities.

Strategy T4.2 Evaluate Transit Service Investments Against Clear Performance Standards for Ridership and Cost-effectiveness

Maximizing ridership has not traditionally been a top service priority for King County Metro. Service designed to achieve other goals has been plagued by a number of poorly performing routes. The City will have difficulty achieving its transit goals without a greater emphasis on ridership. The City needs to work with King County Metro to implement a clear performance evaluation process that supports the Comprehensive Plan goals.

ACTION: Encourage King County Metro to establish clear performance standards for ridership and cost-effectiveness.

Strategy T4.3 Ensure that Bus Transit Redeployment is Effective and Fair

Service hours freed up in Seattle by consolidation, efficiency improvements, and reductions of unproductive service need to be reallocated to other service in Seattle.

ACTION: Negotiate clear guidelines with King County Metro for reallocating all recaptured service hours to Seattle service.

Strategy T4.4 Update and Integrate City Transit Street Classifications to Establish a System that Guides Transit Investments

The Comprehensive Plan designates certain arterial streets as a Transit Priority Network to guide efforts to increase transit speed and reliability. In practice, a number of limitations have restricted the network's usefulness as a planning tool. The TSP proposes to update this network so that it provides a more useful guide for establishing service priorities. The revised Transit Priority Network would help define goals for transit service throughout the city, connecting urban villages and urban centers and allowing residents to travel conveniently without a car. An updated network would incorporate the following principles:

- The Network's basic service goals should be frequencies of at least 15 minutes or better during the day, 30 minutes or better during the evening, and hourly or better during the night. Goals for specific connections might be lower or higher.

- Network routes that operate to and from the downtown ("radial routes") should be spaced at least one-half mile apart approximately. Other routes ("cross-town service") should be spaced approximately one-mile apart. Crosstown service should operate at high enough frequencies to facilitate easy transfers with short waits.

The City currently has one other street classification system aimed at supporting and directing transit service. The Seattle Comprehensive Transportation Program (SCTP) classifies and maps all city streets according to the type and scale of transit service permitted, the land uses served, and the appropriate design of the street. While the SCTP does impact transit service, it does little to direct or anticipate transit improvements.

The City needs to update and integrate these designations to ensure that they are consistent and provide a useful guide for transit investments. An updated transit classification system should help guide the implementation of the Comprehensive Plan's and the TSP's transit goals, City service priorities, new Sound Transit corridors and services, and potential new local services.

ACTION 1: Update the Transit Priority Network to focus on providing a basic level of transit service that connects urban villages and urban centers throughout the city, and to identify the City's highest service priorities at a corridor or neighborhood level. Amend the Comprehensive Plan as necessary.

ACTION 2: Work with King County Metro to focus service and capital investments onto the network. To ensure that transit stops are accessible for pedestrians, use the bus transit network as a guide to help determine pedestrian investments.

ACTION 3: Update the SCTP Transit Street Classification Map and Transit Priority Network to reflect: 1. current conditions, 2. the TSP's transit goals, 3. new Sound Transit corridors and services, and 4. planned or potential new local services. The result should be a comprehensive network that can help plan and guide transit investments in Seattle.

Strategy T5 Support Equitable and Ridership-oriented Fare Policies

The amount and structure of fares have major impacts on transit ridership and help determine transit-affordability. The following strategies are designed to promote equitable and ridership-oriented transit fare policies.

Strategy T5.1 Participate in Efforts to Reduce Fares

There is no question that reducing fares increases ridership. The problem is that because fares contribute to King County Metro's operating revenues, reducing fares also results in service reductions. Currently, national research suggests that travel time and parking costs are more likely to influence the decision to take the bus than lower fares. There is no doubt, however, that bus ridership within Seattle would increase if fares were eliminated or reduced significantly, assuming service was maintained to meet the demand.

There are no currently available revenues or tax sources to cover the lost income caused by a substantial fare reduction or to pay for additional service to accommodate the increased ridership generated by lower fares. Targeting fare reductions to special populations (e.g., students, senior citizens, low wage workers) is a less costly option that could increase ridership while addressing other needs as well. King County Metro and the Puget Sound Regional Council will continue to explore options and test demonstration projects for reducing fares, as well strategies for generating revenues to cover the lost income. The City should participate in and support such efforts.

ACTION: Work with King County Metro and other agencies to explore options and test demonstration projects for fare reduction efforts.

Strategy T5.2 Explore Opportunities to Expand the Ride Free Area

The Ride Free Area encourages high levels of transit usage downtown for short trips, reducing auto travel downtown during the day. Additionally, the Ride Free Area eases loading and unloading of passengers in the downtown, speeding bus travel. King County Metro and Sound Transit should

investigate opportunities for expanding the Ride Free Area or starting new Ride Free Areas in other urban centers.

ACTION: Work with King County Metro and other agencies to develop a policy on Ride Free Areas and criteria for their implementation and expansion.

Trade-offs*: The benefits of expanding the Free Ride Area would have to be weighed against the costs of lost fare revenues and neighborhood parking impacts. The City subsidizes the lost fare revenue to King County Metro ($292, 000in 1998). There is also the potential for "hide-and-ride" activity, where drivers park in the expanded Free Ride Area, where parking is cheap, and then ride the bus into downtown. Strategy T5.3 Support Equitable Fare Structures for City Riders*

In 1996 King County Metro reviewed a proposal to eliminate the current zone fare system in favor of a county-wide flat fare. The flat fare would have been lower than the current two-zone fare but significantly higher than the one-zone fare. The proposal would have meant a substantial fare increase for one-zone riders in Seattle and elsewhere. This increase would shift the cost of more expensive, longer trips made by cross-county commuters onto Seattle residents who generally make shorter, in-city trips.

Based on the current fare structure and average trip lengths, two-zone riders pay almost 50 percent less for the additional length of their trips, as compared to in-city riders. Two-zone travel is already a bargain. In-city riders should not be penalized at the expense of cross-county commuters.

ACTION: Support a fare structure that charges more for longer trips and less for shorter trips.

Strategy T6 Discourage the Development of Park-and-Ride Lots in Seattle

People use the full range of transportation options to get to the bus; they walk, bicycle, take feeder bus service, and drive. The City does not want to encourage people to drive to the bus if other options are available. Driving to catch a bus negates most of the air quality benefits of a bus trip, because more than half of a car's emissions occur at the beginning and end of a trip (before the engine warms up and as it cools off).

Park-and-ride lots are a major investment designed to serve people who drive to the bus. Because park-and-ride parking spaces are extremely expensive, they consume funds that could finance investments that encourage people to get to the bus other ways: e.g., improved transit shelters, better transfer points, enhanced feeder services, sidewalk and lighting improvements, and bicycle lockers. They also consume valuable land that could be more appropriately dedicated to other uses.

The City should continue to encourage and support ridesharing by providing carpool spaces downtown and supporting the existing park-and-ride lots in the city. However, the TSP aims to discourage the development of major new park-and-ride lots within the City limits. In addition to existing bus services, this includes park-and-ride lots serving Sound Transit Light Rail and Commuter Rail services, as well as any future Monorail services.

Although the general intent is to minimize park-and-ride spaces, there are situations where park-and-ride lots can make sense. This includes:

- "The end of the line" for a major transit system (i.e., at Northgate, the planned end of the light rail line).

- Opportunities for "shared parking" (using the same spaces as another development, like a shopping center, movie theater, or church).

- Areas where the alternatives--feeder service, pedestrian and bicycle access--are particularly inadequate.

In situations where a park-and-ride lot may be justified, the City should require analysis of potentially lower cost alternatives for attracting riders, to ensure that better, non-auto-oriented investments are not available. The City should also work with transit providers to establish parking fees as a financing mechanism for any new lots, especially for park-and-ride lots serving new rail services.

Because people may drive and park in adjacent neighborhoods when park-and-rides lots are unavailable, it is important to supplement efforts to promote alternative access to the transit system with parking management strategies that protect neighborhoods from possible parking impacts.

ACTION 1: Do not permit the development of new park-and-ride lots inside the City limits, unless justified by exceptional circumstances and supported by alternatives analysis. Work with transit providers to establish parking fees if a park-and-ride is justified. Use Residential Parking Zones and other parking management strategies to protect neighborhoods from possible parking impacts.

ACTION 2: Encourage King County Metro and Sound Transit to prioritize investments in pedestrian, bicycle, and bus access to the transit system.

Strategy T7 Support and Promote Public Involvement in King County Metro's Decision-making

Effective public involvement is essential to implementing well-used transit service. Seattle's citizens, as bus riders and potential riders, can contribute expertise and bus-riding experience to help King County Metro's decision-making.

ACTION 1: Make the City's public involvement databases available to King County Metro for their public outreach efforts.

ACTION 2: Work with King County Metro to make sure they consider neighborhood plan recommendations when planning service changes.

Strategy T8 Encourage Testing of New, Innovative Transit Services and Technologies

Transit services will need to change and improve to achieve the increased ridership envisioned by the Comprehensive Plan, as well as to respond to changing demographics and urban development patterns. The City should support efforts to develop and test new, innovative transit services that could help achieve the City's transit goals.

The City and King County Metro have collaborated to test a pilot neighborhood circulator service (LINC, the Local Initiative for Neighborhood Circulation). The City needs to evaluate the costs and benefits of implementing such service as compared to other service priorities.

In addition, the Sound Move Plan includes a $30 million Innovations Fund to test new transit technologies and other projects that might increase transit ridership.

ACTION 1: Work with King County Metro and other agencies to test new, innovative transit services and technologies that could help achieve the City's transit goals.

ACTION 2: Work with King County Metro to evaluate the costs, benefits, and opportunity costs of further implementing neighborhood circulator services; and of using smaller vehicles.

ACTION 3: Explore opportunities to use Sound Transit's Innovations Fund to finance efforts to test new transit technologies and programs.

NEW TRANSIT STRATEGIES

Strategy NT1 Expand Monorail Service

In the November 1997 election, Seattle voters approved Initiative 41 ("the Monorail Initiative"). The Initiative establishes a Public Development Authority known as the Elevated Transportation Company (ETC) to build, maintain, and operate an "electrically-powered, elevated, rubber-tired mass transportation system." One side of the "X"-shaped system proposed by the Initiative would run from Greenwood to Ballard, Fremont, Seattle Center, Downtown Seattle, South Downtown and over to West Seattle. The other side would run from Lake City to the University of Washington campus, Capitol Hill, and through Southeast Seattle along Rainier Avenue South. The Initiative did not include any funding, envisioning that private companies and development opportunities would provide financing. Business and Occupation tax (B&O tax) increases and councilmanic debt are suggested as backup funding sources.

The ETC is charged with implementing the Monorail Initiative. The City's role is to support the ETC's work. The ETC is governed by a 12-member Council appointed by the Mayor, City Council President, and the Governor. The ETC is responsible for conducting the feasibility analysis, environmental and technical review, and detailed planning required to develop new monorail service, as well as securing financing and managing construction.

The City of Seattle has provided start-up administrative funding for the ETC and has recruited the ETC as a partner in the Seattle Transit Initiative. The Seattle Transit Initiative may provide opportunities for the ETC to access resources for planning and feasibility analysis.

The Monorail Initiative was based on the success and popularity of the Seattle Monorail. The Seattle Monorail currently provides a 90-second ride from Westlake Center in Downtown Seattle to the Seattle Center. The monorail is popular with tourists and veteran Bumbershoot attendees alike. The monorail carried almost 2.54 million passengers in 1996. It is one of the few transportation systems in the world that connects two food courts, and the only public transportation system in the United States to operate at a profit (since 1994).

The City contracts with the Seattle Monorail Services for operation and maintenance of the Monorail and recently signed an 18-year contract extension. Ridership is expected to increase as the Seattle Center experiences additional development (the Jimi Hendrix museum) in 1999.

ACTION 1: Support the Elevated Transportation Company's efforts to conduct the feasibility analysis, environmental and technical review, and detailed planning required to develop the proposed electric, elevated, rubber-tired mass transportation system. Work with the ETC to identify and secure funding opportunities.

ACTION 2: Work with the ETC, Sound Transit, and King County Metro to integrate Monorail development efforts into the Seattle Transit Initiative and other mass transit and transportation improvements.

Strategy NT2 Develop Options and Funding for the Seattle Transit Initiative Higher Capacity Local Transit Services

Developing options and funding for higher capacity (intermediate) local transit services is one of the main goals of the Seattle Transit Initiative. As outlined in Strategy T1, the Initiative is a partnership between the City of Seattle, King County Metro, Sound Transit, the Washington State Department of Transportation (WSDOT), and the Elevated Transportation Company (ETC), aimed at improving Seattle's transit service.

Even after the new Sound Transit service is fully implemented, many of Seattle residents' local travel needs will remain underserved. Public transit will not be an attractive choice for many of Seattle's trips. There are significant north/south and east/west transit demands in Seattle that require additional investments. There are a number of these neighborhoods and travel corridors where higher capacity transit services could be a cost-effective way to improve mobility.

These services would provide greater capacity, frequency, speed, and reliability than existing bus service, but would be more locally-oriented and have lower impacts than a grade-separated rail system operating in an exclusive right-of-way. The options for higher capacity transit services include traditional rail technologies (streetcars and surface light rail) as well as monorails and other alternative technologies.

Corridors that may be candidates for higher capacity local service include the NE 45th/50th Street corridor connecting Ballard, Fremont, Wallingford, the University District, and Sand Point; the Aurora Avenue corridor; the Lake City Way corridor; West Seattle; and the possible extension of the Waterfront Streetcar. Additionally, Sound Transit light rail is likely to serve some other key corridors that are not funded in their Sound Move Phase I Plan, such as from the U-District to Northgate.

A successful effort to develop new higher capacity transit services in Seattle will require careful collaboration with Sound Transit, King County Metro, and the ETC. The options for financing such improvements might include working with Sound Transit to identify appropriate Phase II investments for Seattle, pursuing voter-approved bonds, or seeking State authorization for new funding tools.

Investments in new transit options should be accompanied by efforts to improve the performance of our existing bus service. The City could also use additional transit funding to implement transit improvements outlined in the previous section (Strategies T2-T6) and to contract with King County Metro for additional bus transit service.

ACTION 1: Work with Sound Transit, King County Metro, and ETC to prioritize corridors, conduct feasibility analyses, and develop service and funding proposals.

ACTION 2: Work with partners to implement higher capacity, local transit routes as appropriate.

Strategy NT3 Explore Options for Water-based Transit Service

Much of Seattle is surrounded by water, naturally raising the potential for water-based transit service. The water corridors that "invite" closer examination include Elliott Bay, between downtown and West Seattle; Lake Washington, between Seattle and the east side suburbs; and connections into Lake Union from the downtown area and Lake Washington.

For the last two summers, the Elliott Bay Water Taxi has operated between West Seattle and downtown Seattle, providing a pleasant alternate route to travel over the West Seattle bridge. The Water Taxi carried over 33,000 passengers in the summer of 1997. A joint project of the City of Seattle, King County Metro, the Port of Seattle, and Argosy Cruises, the Water Taxi connects Seacrest Marina Park to Piers 55 and 66.

The City of Seattle provided project management, partial funding, and other support in 1997. King County Metro assumed project management and provided funding for the 1998 summer operations.

The purpose of the summer demonstration projects was to assess the market demand for future permanent cross-bay taxi service, test the logistics of service operation, and understand the type and magnitude of on-shore impacts.

A ridership survey found that factors influencing ridership included weather, service interruptions, holidays, and special events. Daily trends showed weak morning commute ridership (west-to-east), strong midday ridership, strong evening commute ridership (east-to-west), and good ridership for special events (e.g., Mariners games and concerts). Since about half of the people going to work at commute periods said that they would have otherwise driven to work, the water taxi helped to provide transportation alternatives for West Seattle residents.

Although the water taxi operated at a deficit during the 1997 demonstration, preliminary analysis shows that it may be possible to achieve subsidy levels consistent with standard transit subsidies.

ACTION 1: Work with King County Metro to continue the Elliott Bay Water Taxi and evaluate the feasibility of and identify funding for permanent year-round and/or summertime service. Conduct a docking study to identify permanent docking locations. Test strategies for increasing commute ridership.

ACTION 2: Explore options for water-based transit service serving other corridors in Seattle and into other jurisdictions.

SOUND TRANSIT

The Central Puget Sound Regional Transit Authority ("Sound Transit") *Sound Move* Plan was approved in 1996 by voters in King, Snohomish, and Pierce counties. It includes 25 miles of *Link*

light rail, 81 miles of the *Sounder* commuter rail, 20 new Regional Express bus routes, and major investments in bus access to the HOV lanes on the region's highways. Sound Transit represents an immense opportunity and responsibility for Seattle. Link light rail will connect the University District to SeaTac, and to Northgate if funds are available. The *Sound Move* Plan includes eleven new light rail stations in Seattle (including Northgate and Roosevelt), the five existing downtown tunnel stations (including Convention Place station), and as many as seven potential stations (some are in lieu of the eleven stations depending on the alignment and some are additional stations). Commuter rail will connect Seattle with Lakewood (Tacoma) and Everett. The King Street Station area will be a major hub with access to light rail, commuter rail, express and local buses, and Amtrak.

Opportunities, Risks, and Constraints

Sound Transit is a tremendous investment in an efficient, environmentally responsible way to move people. By the year 2010, it will carry about 173,600 people daily to work, shopping, recreation, and other needs. Sound Transit also represents an opportunity to shape the region's development patterns. Evidence from other new transit projects of this magnitude elsewhere in the US indicates that rail transit systems can attract related community development investments valued in the billions of dollars.

Sound Transit is also a huge, multibillion dollar construction project. Over the next ten years, thousands of people will be employed to design, build, and operate Sound Transit. It will have major impacts on surrounding neighborhoods, businesses, and streets. Managed effectively, Sound Transit will not only provide greatly improved mobility, it will improve the economic vitality, appearance, and infrastructure of affected neighborhoods. Managed poorly, this project could generate substantial resentment, displace residents and businesses, and create conflicts that would take years to resolve.

While Seattle has an important stake in Sound Transit, the City of Seattle does not control the Sound Transit program. Sound Transit's decision-making authority is held by a regional Board of elected officials (Seattle's Mayor and a Councilmember sit on the Board). Clear interlocal agreements, adequate staffing, and strong communications will be central to Sound Transit's success in Seattle.

The following strategies aim to ensure that Seattle fully capitalizes on the opportunities that Sound Transit offers.

Strategy ST1 Work with Sound Transit to Provide the Best Possible High Capacity Transit

Sound Transit's high capacity transit system will provide faster and more efficient regional transit trips via light rail, regional express bus, and commuter rail. Sound Transit is designed to move hundreds of thousands people every day. Sound Transit service will strengthen Seattle's economy and environment as well as increase its attractiveness to business and residents. The Link light rail is expected to carry about 124,000 people daily projected in 2010 if built from SeaTac to Northgate.

To achieve Seattle's objectives, Sound Transit and other elements of the transit system must also support efficient shorter or connecting trips serving Seattle's residential and business communities.

ACTION 1: Work with Sound Transit to site, design, build and operate the most effective high capacity transit system possible for Seattle's residents, businesses, and commuters. The system should maximize ridership and provide an alternative to single-occupant vehicle travel within the city and regionally.

ACTION 2: Work with partners through the Seattle Transit Initiative to ensure that Sound Transit facilitates local trips and smooth, efficient transfers between local and regional trips.

ACTION 3: Promote adoption of a fare system that provides for easy transfers between systems and does not penalize people who depend on transit for basic mobility.

ACTION 4: Identify additions to the light rail system that would be appropriate for Phase II.

Strategy ST2 Secure Effective and Thorough Public Involvement

The assessment of Link light rail alignment alternatives, guideway profiles, and station locations and designs will require extensive community input. During construction, mitigation of interim impacts will require communication strategies and support for affected businesses and residents.

ACTION: Work with Sound Transit to make sure that implementation follows principles of participatory design, includes community stakeholders, addresses community concerns, and supports community development.

Strategy ST3 Use Station Area Planning to Maximize Ridership and Further Growth Management, Neighborhood Plan, Economic Development, and Revitalization Objectives

Light rail stations can create substantial economic development and revitalization opportunities for the surrounding neighborhoods. The City must use these opportunities to help achieve the Comprehensive Plan's goal of concentrating Seattle's growth in walkable, transit-oriented, and mixed-use neighborhoods to maximize transit ridership and reduce reliance on single-occupant vehicles.

The City has embarked on a two-year station area planning process that will build on Neighborhood Plans and address land use and design issues for each of the eleven stations (plus the provisional stations) in Seattle. Possible tools for this station area planning are special land use and density rules, design guidelines, off-street parking standards, partnership and financing mechanisms, and regulatory review streamlining. The station area plans will cover an area approximately 2,000 feet around each station. The plans will also address access to the stations by transit, bicyclists, and pedestrians (see Strategy ST8: Promote Bicycle Access to Sound Transit).

The design of the transit facilities themselves is also critical. Stations, tracks, support facilities, power supplies, and other facilities can contribute to or detract from a community. Sound Transit facilities should be an asset to the communities in which they are located.

Construction of the Sound Transit Link light rail line may lead to proposals for park-and-ride lots associated with the new stations. As outlined in Strategy T6, the City will discourage the development of new park-and-ride lots within the city limits, unless justified by exceptional circumstances and supported by alternatives analysis. Siting rail stations in dense, walkable neighborhood centers is incompatible with the low-density land use and large volumes of vehicle

traffic associated with park-and-ride lots. The end of a rail line (Northgate) is one possible exception (see Strategy T6: Discourage the Development of Park-and-Ride Lots in Seattle).

ACTION 1: Site and support development of Link light rail stations in urban villages and centers. Use station area planning process to promote station area development that reflects the goals of adopted neighborhood plans.

ACTION 2: Work with Sound Transit to ensure that walking, bicycling, and riding the bus to stations is convenient and attractive. Connect light rail stations and stops with adjacent neighborhood centers through the use of boulevards, malls, transit shuttles, pedestrian walkways, and bicycle facilities.

ACTION 3: Target the station areas for transit-oriented housing and appropriate commercial development. Use station area planning to identify and develop a package of incentives and tools to support development goals. Identify and cultivate the development potential of vacant, underdeveloped, and publicly-owned land.

ACTION 4: Work with Sound Transit to promote good urban design of Sound Transit facilities by contributing to and reviewing design guidelines and facility designs, and by helping facilitate community participation in the design process.

ACTION 5: Do not permit the development of new park-and-ride lots inside the City limits, unless justified by exceptional circumstances and supported by alternatives analysis (see Strategy T6). Work with transit providers to establish parking fees if a park-and-ride is justified. Use Restricted (Residential) Parking Zones and other parking management strategies to protect neighborhoods from possible parking impacts.

Strategy ST4 Maximize the Direct Economic Benefits of Sound Transit Construction

Sound Transit's labor, materials, and other business expenditures offer a tremendous opportunity for job development and training initiatives.

Simultaneously, communities and businesses will be affected by construction and staging activities. Sound Transit needs to provide neighborhoods and small businesses with resources to cope with the impacts of major construction activities, including information programs, mitigation plans, and temporary business support and relocation assistance.

ACTION 1: Work with Sound Transit to promote local contracting and hiring that reflects community diversity; to develop training, apprenticeship, and employment opportunities; and, to ensure appropriate levels of participation by women- and minority-owned businesses.

ACTION 2: Establish job development initiatives targeting Sound Transit construction opportunities. Develop partnerships with Seattle Jobs Initiative, the Port of Seattle, and similar efforts.

ACTION 3: Work with Sound Transit and community organizations to protect fragile businesses during the construction.

ACTION 4: Work with Sound Transit to minimize and mitigate construction impacts including the preservation of pedestrian and bicycle routes.

ACTION 5: Support Sound Transit's investments in commuter rail that also benefit freight rail service, such as improved signalization, added track capacity, and improved railroad operations.

Strategy ST5 Integrate Infrastructure Investments

Sound Transit construction activities and facilities will require new utility services or relocations. By coordinating City capital improvements and private development projects with the construction of Sound Transit facilities, the City can reduce the cost of utility upgrades and other improvements.

Special project management strategies will be required to coordinate departments' capital improvements with private development projects, Sound Transit project level design teams, and construction contractors.

ACTION: Coordinate transportation, utility, and private development investments with Sound Transit design and construction to leverage resources, improve design, and maximize efficiency.

Strategy ST6 Seek Financing for Unfunded System Components

The unfunded components of the Sound Transit system plan in Seattle include the light rail segment from the University District to Northgate and a provisional station at the north end of Capitol Hill. A provisional commuter rail station in Ballard is partially funded, and there will be analysis completed in the environmental review process for commuter rail stations in Georgetown and in the north downtown area. These additional segments and stations are important.

The main sources of potential funding for these components are additional grants from the federal government and cost savings. The best ways to reduce costs are: 1) to expedite construction, reducing delays and "beating" inflation, which will reduce Sound Transit's buying power by about 4 percent each year, and 2) to make realistic and appropriate project design choices. The City can help accelerate construction in Seattle and will have significant influence over project design. The City must also work vigorously with Sound Transit and other agencies to secure new funds and to realize other cost savings.

ACTION: Seek financing for unfunded system components. Work with Sound Transit to identify opportunities to accelerate the project in the city and to ensure that design choices are realistic and appropriate.

Strategy ST7 Promote Effective and Fair Redeployment of Transit Service

The Link light rail line in Seattle will duplicate some of the city's highest performing bus routes, providing greatly increased service and allowing the reallocation of significant bus hours. For example, the Route 7 (University District to Rainier Beach) now operates approximately 100,000 service hours a year, and Route 43 (University District to Downtown Seattle) operates approximately 50,000 hours a year. While these routes or replacement routes will continue to operate to serve short-distance trips and portions of the routes not duplicated by Link light rail, the rail service will free up thousands of service hours. These hours must be reallocated to service priorities within the North King County subarea of the Sound Transit district, which includes

Seattle and Shoreline. (see Strategy T3.6: Transit Redeployment). Existing service must also be reoriented to provide access to connections with the light rail system. See Strategy T3.6: Transit Redeployment.

ACTION: Work with Sound Transit and King County Metro to ensure that transit service in Seattle freed up by Sound Transit is redeployed in the North King County subarea in accordance with City priorities.

Strategy ST8 Promote Bicycle Access to Sound Transit

Providing convenient bicycle access to and onto the Sound Transit system promotes both bicycling and riding transit. Bicycle commuters increase transit ridership while reducing auto traffic congestion around stations. Over 500,000 bicyclists board Metro buses with their bikes each year since King County Metro installed bike racks on all their buses in 1994. The Santa Cruz, California, transit system reported that installing bike racks on their buses led to a 20 percent increase in transit ridership. On the Caltrain commuter rail service in northern California, 2,000 riders bring their bikes on trains each day.

There are three basic ways to support bicycle access to rail transit: providing facilities that make it easy to get to the station, providing bicycle parking/storage at stations, and providing bicycle access on trains.

- Dedicated bicycle facilities such as bike lanes, trails, and other appropriate measures and design elements make it easy to bike to the train.

- Providing bicycle racks and lockers at stations also encourages bike-and-rail trips. Many transit systems provide bicycle racks and lockers at stations.

- Bringing bicycles onto trains should be safe and convenient. Most North American rail transit systems accommodate bikes on their trains in some manner. The majority do not allow bicyclists on board during morning and evening rush hours because of the potential entanglements in crowded conditions; some transit systems allow access for "reverse" commuters. Several systems have very few restrictions on the times to board or whether a permit is required. These systems include Atlanta, Baltimore, Edmonton (Canada), Los Angeles, New York City, San Diego, San Jose, and St. Louis.

ACTION 1: Work with Sound Transit to ensure safe and convenient access to the transit stations and ensure that stations are designed to accommodate bicycles in a manner that does not cause conflicts with other transit users.

ACTION 2: Work with Sound Transit to ensure that adequate bicycle parking and lockers at stations is provided.

ACTION 3: Work with Sound Transit to maximize bicycle access on trains.

ACTION 4: Work with Sound Transit to protect and enhance existing bicycle facilities within the rail transit corridor.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) programs provide incentives to encourage the use of transportation alternatives and disincentives to discourage driving alone. They are designed to reduce the number of automobile trips, shorten trip lengths, or switch the times of trips to less congested periods of the day. TDM programs make the transportation system more efficient and reducing pollution. The Comprehensive Plan includes several TDM goals and targets a 24 percent reduction in SOV work trips by 2010.

The advantage of TDM programs is that it is usually much cheaper to prevent or divert an automobile trip than it is to provide the infrastructure needed to serve it. For example, if an employer can avoid building or leasing parking by providing free bus passes that reduce the number of employees driving to work, the businesses are likely to save money. The same is true for government, where effective TDM programs can reduce the need for road-building and other infrastructure investments.

The most important TDM strategy of all is good land use. As described in Chapter III (Protecting and Enhancing Neighborhoods), there is a powerful connection between travel behavior and land use. Compact, mixed-use, people-oriented developments support walking, bicycling, and public transit. This is one of the key building blocks of the Comprehensive Plan's "urban villages" strategy. Several City strategies to promote trip reduction through better land use are outlined in Chapter III.

The Commute Trip Reduction (CTR) law plays an important role in Washington state's TDM programs. Passed in 1991, the CTR law requires that major employers in urban counties reduce the number of drive-alone work trips. As a result, major employers in the Puget Sound area reduced their SOV commute trips by 9.5 percent between 1993 and 1997. The CTR law and a number of other state and regional plans (including Seattle's Comprehensive Plan) set ambitious goals for reducing our dependence on cars.

The City's TDM efforts include: 1) enacting and implementing the City's Commute Trip Reduction ordinance; 2) developing a comprehensive trip reduction initiative that includes flex pass, parking cash-out, carpools/vanpools and other TDM programs; 3) requiring major developments to prepare TDM programs known as Transportation Management Programs (TMPs), and 4) recognizing successful employer TDM programs. The City also has a CTR program that targets its own employees, including subsidized transit passes, bicycle parking, guaranteed ride home services, and other promotions.

The strategies in this section continue and strengthen the City's existing work on Transportation Demand Management. TDM programs are most effective when complimentary elements are packaged together to fit the needs and conditions of a given site or area. Supporting infrastructure, such as sidewalks, bike racks and showers, and transit services are important to a successful TDM program.

Strategy DM1 Develop a Trip Reduction Initiative

This strategy calls for taking a more ambitious, higher visibility approach to TDM - making substantial investments in a comprehensive and exciting package of strategies designed to promote transportation alternatives and reduce the number of SOV trips on Seattle streets. Past City

campaigns have been quite successful in promoting waste reduction, recycling, and energy conservation. A trip reduction campaign supporting public transit, bicycling, walking, and carpooling could be similarly effective in reducing driving and its impacts.

The Trip Reduction Initiative will seek to:

- Increase investment in TDM strategies with demonstrated effectiveness, like van pooling and flex pass programs and parking cash out (see Strategies DM2-6).

- Develop new TDM programs that offer good potential for reducing SOV travel, such as a TDM grants program and Proximate Commuting (see Strategies DM7-11).

- Evaluate and implement policy reforms that will encourage people to use transportation alternatives, like "unbundling" parking, pricing reforms, and corridor TDM programs (see Strategies DM12-14).

- Increase support for transportation reforms and transportation demand management investments with elected officials and the public; increase public understanding of the benefits of transportation alternatives and the costs of driving alone (see Strategies DM15-16).

- Create a stronger TDM partnership between the City and the agencies that provide transportation services in and around Seattle - strengthening efforts to improve Transportation Demand Management programs serving Seattle. Developing the Trip Reduction Initiative as a partnership with other jurisdictions and agencies will increase its effectiveness substantially. Some efforts are already underway at the regional level (see Strategy DM17).

These strategies are not cheap. Implementing an ambitious package of TDM strategies will cost money. What they cost, however, is only half the question. The other half is what they save. Providing the infrastructure to serve and manage the impacts of all our driving is tremendously expensive.

ACTION 1: Develop a comprehensive Trip Reduction Initiative aimed at implementing a comprehensive package of strategies designed to reduce driving and promote transportation alternatives.

ACTION 2: Strengthen collaboration and coordination between Seattle and other jurisdictions working on Transportation Demand Management programs.

Invest in and Implement Proven TDM Strategies

Strategy DM2 Encourage Flex Pass Programs

The University of Washington U-Pass is one of the biggest TDM success stories in the state. Similar programs could be extended to other areas or employers in the form of a flex pass or promoted in combination with a parking cash-out program (see Strategy DM5). The flex pass allows employers to buy transit passes and other commuter services--such as guaranteed ride home, vanpool subsidies, and carpool incentives--as one package. The employer or institution

provides transit benefits to all their employees (or students), but is charged based on an estimate of how many will actually use the benefit. A flex pass program helps reduce administrative costs while providing a broader range of incentives for employees. Flex passes are most effective when combined with increased parking charges. Higher parking costs reinforce the transit incentive, and parking revenues can help underwrite flex pass costs.

The City can encourage businesses to offer a flex pass program by offering a small incentive fund that partially offsets the cost of the benefit.

Opportunities to set up residential flex pass programs are also worth exploring. They could be developed on a block or a neighborhood basis.

ACTION 1: Work with King County Metro to investigate ways to encourage more use of the flex pass program.

ACTION 2: Establish an incentive fund to match employer investments in a flex pass program, working with King County Metro and/or other agencies.

Strategy DM3 Support Vanpool and Carpool Programs

Vanpooling has proven to be one of the region's most successful TDM products. There are now more than 1,000 public vanpools operating in our four-county region. Vanpool programs recover between 60 and 90 percent of all operating costs directly from rider fares, making this service one of the most cost effective products offered by the region's transit agencies.

Transit agencies are unable to provide enough vehicles to meet the demand for vanpooling. They need more funds from public and private sources to expand the number of vehicles. The City should work with State and regional agencies, including transit agencies, to identify additional funding sources for vanpools and develop new incentives for private investment in vanpools.

The City provides about 650 on- and off-street parking spaces for certified carpools, principally in the downtown area. Rates for these spaces are much cheaper than regular monthly parking rates in private garages. Higher occupancy vehicles receive reduced prices and a higher priority on the waiting lists.

SEATRAN leases the Freeway carpool parking lot from the Washington State Department of Transportation to provide low-cost parking spaces to permitted carpool vehicles. Carpool permit holders have expressed concerns about safety at the parking lot. Lighting improvements would help resolve this problem.

The City can encourage carpooling and vanpooling by requiring developers to reserve carpool and vanpool spaces in all new public and private principal-use parking garages. . Currently, only accessory parking (assigned to a specific development) in the downtown area has to include designated or discounted carpool parking spaces. However, principle-use parking garages have no requirement for carpool/vanpool spaces, despite the demand for such spaces. There is also a need for "park-and-pool" spaces to facilitate the assembly of carpools and vanpools outside of the downtown area. This is a good opportunity to "share parking" with existing church and non-profit parking facilities.

ACTION 1: Participate in a region-wide assessment of the potential vanpool market in the Puget Sound region, involving WSDOT, PSRC, and vanpool program operators, with the objective of finding ways to encourage more vanpool participation and capital investment in vanpool programs.

ACTION 2: Support funding for additional vanpools in the region.

ACTION 3: Continue to permit and expand the on-street carpool parking program.

ACTION 4: Improve lighting in the Freeway carpool parking lot.

ACTION 5: Amend the Land Use Code to require discounted carpool and vanpool spaces in principal-use parking garages. Evaluate other incentives to providing carpool/vanpool parking.

ACTION 6: Develop and implement strategies that facilitate the use of shared parking spaces for assembling vanpools and carpools.

Trade-offs: The on-street carpool and vanpool designation program reduces on-street parking for other users.

Strategy DM4 Extend TDM Programs to Small Businesses and Small Business Organizations

Most Transportation Demand Management programs are limited to large developments or major employers. Commute Trip Reduction requirements, for example, apply only to employers with over 100 employees at a single site. Small businesses account for a large share of the city and region's employees. Their efforts can help reduce driving, preserve parking for customers, and reduce the impacts of parking spillover into surrounding neighborhoods.

The City has done some grant-funded work to implement and evaluate voluntary customized trip reduction strategies for smaller businesses. This strategy proposes to continue and build on those voluntary efforts in targeted areas. Transportation Demand Management programs for small businesses could be more efficient and affordable if businesses within a neighborhood worked cooperatively to develop a neighborhood-wide TMP. Business Improvement Areas, shopping centers, and other neighborhood business groups are more likely to have the critical mass of employees to facilitate a successful TMP than a single small business.

The City should also explore other strategies that provide incentives and/or requirements for increasing the trip reduction efforts of smaller businesses.

ACTION 1: Work cooperatively with small businesses in urban villages and centers to implement voluntary TDM strategies.

ACTION 2: Evaluate other options for extending demand management strategies to include the employees of smaller businesses.

Strategy DM5 Develop and Encourage Parking Cash-out Programs

Employees who receive free parking are much more likely to drive to work alone. Parking cash-out programs offer employees a cash transportation allowance, similar to the cost the employer would otherwise pay to provide a parking space. Employees may use the allowance to purchase parking or transit passes. Those who walk, bicycle, or otherwise get to work not using an SOV can keep

the cash. Where implemented, parking cash-out programs have generated significant reductions in drive alone commuting. Cash-out programs improve employees' transportation choices and help employers meet the state's Commute Trip Reduction goals.

Unfortunately, parking cash-out programs have been difficult to implement. Until recently, federal tax law gave special treatment to parking benefits but not to transit passes, vanpool programs, or cash allowances. Other obstacles include the perception of free parking as a significant employee benefit as well as building leases that prevent employers from recovering the cost of unused parking spaces.

Recent changes to federal tax and transportation laws now encourage employers to offer parking cash-out to employees. The Taxpayer Relief Act of 1997 and the Transportation Equity Act of 1998 (TEA21) now allow for a "cafeteria-style" menu of transportation benefits. Businesses can offer employees a cash allowance, a flex pass, and/or a subsidized or partially subsidized parking space.

Parking cash-out can actually save employers money on their transportation costs for employees. Because free parking is such a strong invitation to drive alone to work, subsidizing both employee parking and trip reduction measures is self-defeating. Companies can redistribute the money spent on parking to offer a cash allowance as well as transit passes and other incentives.

California companies with parking cash-out have developed easy and automatic administrative strategies, similar to when an employee wants to change their income tax withholding status.

ACTION 1: Work with the CTR programs of major employers and the TMP-affected buildings located within Seattle to promote parking cash-out. Develop a tool-kit with King County Metro staff that explains the benefits and tax issues. Highlight employers who have successful programs.

ACTION 2: Work with business community, King County Metro, and others to develop and evaluate options for requirements and non-regulatory incentives that promote parking cash-out programs.

ACTION 3: Work with business community and others to develop an education program for the development and banking communities about parking cash-out and the negative impacts of free parking on transportation problems and commute trip reduction activities.

Strategy DM6 Strengthen Transportation Management Programs

The City requires major developments to implement Transportation Management Programs (TMPs), aimed at reducing their impacts on the transportation system. The City can require TMPs if SEPA analysis identifies transportation impacts and the City determines that a TMP would help mitigate those impacts. There are approximately 200 buildings and institutions throughout the city that are required to have TMPs. The programs can be as small as one small employer's bus pass program, or as large as the University of Washington's U-Pass program.

Strategy DM6.1 Update and Improve Older Transportation Management Programs

For the last twenty years, the City has required TMPs through the Department of Construction and Land Use's (DCLU) Master Use Permit process for major building projects. Guidelines for TMPs have evolved over the years. Early guidelines were often vague, inflexible, and unenforceable; they

have been replaced with clear, performance-based rules. As a result, TMPs prepared at different times have different goals, program elements, and measurements of success. The current guidelines require a minimum number of carpool trips and a maximum number of allowable drive-alone trips.

The City should encourage businesses and institutions to update old TMP agreements to reflect the new guidelines and implement new strategies. Updated agreements would be clearer, more flexible, and more enforceable.

ACTION: Work with TMP-conditioned buildings and institutions on a voluntary basis to renegotiate their TMPs to be consistent with new DCLU and SEATRAN guidelines.

Strategy DM6.2 Improve Monitoring and Support of TMP Sites

Transportation Management Programs are only effective if they are well-designed and fully implemented. City staff should work with affected sites to help implement TMPs and monitor their progress. However, there are not enough resources to adequately monitor all TMP sites. Additionally, there is sometimes a need for enforcement along with support and monitoring. The penalties for non-compliance do not currently have enough weight to encourage full implementation of the TMP.

Some businesses and developments are subject to both TMP and Commute Trip Reduction rules. Because both programs require reporting and monitoring, some employers are reporting twice. The City is also tracking TMP and CTR performance separately. An integrated reporting mechanism and customized database would allow for accurate reporting that fulfills both the CTR and the TMP requirements. The system also would provide accurate documentation to support DCLU enforcement efforts. A revised reporting system should focus on providing the necessary information to meet monitoring and mandated information needs, while reducing administrative costs.

ACTION 1: Increase the staff resources devoted to TMP support and monitoring, and investigate ways to make the enforcement process more effective, including both additional incentives and increased penalties.

ACTION 2: Develop streamlined program performance reporting and tracking procedures for employment sites that are subject to both TMP requirements and the Commute Trip Reduction law.

Strategy DM6.3 Promote TDM Programs in Residential Development

Although most TMPs serve commercial developments, the City of Seattle's SEPA ordinance does not exempt residential development from TMPs. In fact, some residential developments have TMPs. Under SEPA, however, there are no threshold values for number of units or trips that would trigger a TMP for any type of development. The determination is based on a case by case analysis of traffic impacts. The Northgate area is an exception; the Northgate Plan requires a TMP for any development generating 25 or more employee or student vehicle trips and any multi-family project that generates 50 or more trips during the p.m. peak hour.

Transportation Management Programs for large residential development could be tied to reduced parking requirements and other incentives that would help reduce the cost of housing. The specific elements of a residential TMP may be different from those of a traditional employer-based TMP,

recognizing that residential developments have different travel characteristics and vehicle storage needs. Possible elements could include providing residential "motor-pool" vehicles (see Strategy DM11: Car Sharing), residential flex passes, see (Strategy DM2), and other strategies.

A residential TMP program must also consider the potential for increasing housing costs.

ACTION: Work with developers and property managers to design TMPs and TMP incentives that would be appropriate and effective for residential development.

Trade-offs: Any additional requirement on residential development must consider the impacts on cost and the supply of affordable housing. Transportation Management Programs may help reduce parking requirements, reducing the cost of housing.

Develop New TDM Programs with Good Potential for Reducing SOV Travel

Strategy DM7 Establish TDM Grants Program

Even a small competitive grants program would generate and fund innovative new community-based TDM projects. The City has had successful experiences with grant programs for waste reduction and recycling.

ACTION: Work with King County Metro and/or other agencies to start a competitive trip reduction grant program to encourage the development of innovative TDM programs.

Strategy DM8 Develop Seattle Smart Card

Packaging benefits can create a stronger incentive. One idea is to develop a flex pass-type program for Seattle residents. The pass ("Seattle Smart Card") would provide a package of transportation and other benefits, such as transit rides, guaranteed ride home services, library use, and ticket discounts at publicly-subsidized facilities like the aquarium and the zoo. The discounted pass would be available to Seattle residents, providing an attractive transportation and civic benefit for people who live in Seattle.

The big challenge, of course, is funding these benefits. Any significant discounts will carry a substantial cost. The cost to residents would depend on how much funding was available for the program. The University of Washington funds its U-Pass program, that has similar merchant discounts, with parking charges for SOV commuters to the University campus.

ACTION: Evaluate the opportunities for and constraints on developing a Seattle Smart card that provides transportation and other civic benefits for Seattle residents. Develop demonstration projects if feasible.

Strategy DM9 Promote Telecommuting

Telecommuting is a TDM tool that can provide benefits to employers and employees while reducing automobile trips. As communications technology continues to evolve telecommuting is becoming more popular and easier to implement. Nationwide, the number of telecommuters increased 30 percent over two years from 8.5 million to 11 million employees. Companies are finding that telecommuting helps reduce expenses for office space, attracts and retains employees,

attracts a more diverse workforce (including more people with disabilities), and increases productivity.

The City of Seattle, under a grant from the Urban Consortium, conducted a telecommuting demonstration project that resulted in a City-wide telecommuting policy. As a result, the City is better prepared to assist others in setting up telecommuting programs and developing policies. There are also a number of other resources available for companies interested in telecommuting programs, including the Washington State University Energy Program.

While telecommuting generally refers to working at home, it can also apply to a satellite site. In this case, employees travel to a telecommuting site shared with other employees closer to their home. This alternative reduces trip lengths, and it may generate more transit, walking and biking trips because of the shorter commute distance. Satellite offices would be an effective TDM tool for companies outside Seattle with a significant number of employees living in Seattle.

ACTION 1: Educate employers about the benefits and successful applications of telecommuting programs and assist companies in starting telecommuting programs.

ACTION 2: Work with employers in and outside the city to set up satellite sites for telecommuters.

Strategy DM10 Promote Proximate Commuting

Proximate commuting is a TDM strategy that reduces trip lengths. Proximate commuting programs assign employees to branch offices or sites closer to the employee's home. A pilot project with banks east of Lake Washington showed significant reductions in miles-traveled when employers made deliberate efforts to assign employees to locations closer to their homes, when appropriate.

ACTION: Develop and implement strategies that encourage proximate commuting programs.

Strategy DM11 Encourage Car Sharing

As an innovative program to reduce overall automobile trips, car sharing is a type of short-term, convenient, pre-approved car rental. Members make reservations over the phone for the time they need the car (an hour, a half-day, a weekend, etc.) and pick up the vehicles within a short walk of their homes. They are billed for their use based on time and miles driven, in addition to an initial deposit. Car co-ops, one form of car sharing, have recently formed in Portland, Vancouver, Victoria, Toronto, Ottawa, and here in Seattle.

Car sharing provides the convenience of a car, without the high costs of ownership and hassles of car ownership (including need for parking space). Over 80 percent of an individual's driving expense is the cost of owning the car itself. This creates a perverse incentive to drive: once you own a car, the more you drive it the better the deal you are getting.

Car sharing offers a host of related benefits:

- Improved mobility for people who cannot or choose not to own cars.

- Increased use of transit, bikes, walking and taxis and reduced driving: Switzerland and Germany's programs have led to 50 percent reductions in the amount of driving done by car sharing members.

- Reduced household transportation costs: Car sharing can free up personal income for housing and other needs.

- Less demand for parking and reduced overall parking costs: Residential developers might be able to buy into a car sharing program with reductions in the parking requirement.

Car sharing is even more attractive when combined with other trip reduction strategies that reduce the need for vehicle ownership, such as a residential flex-pass (see Strategy DM2).

The City of Seattle, King County Metro, and the University of Washington are partners in developing a car sharing demonstration project for Seattle. During 1998, the partners are developing a business plan, selecting pilot areas, and conducting a marketing campaign. Private sector businesses or organizations will compete to provide a one-year pilot program to begin in early 1999.

While the pilot project is sponsored by public agencies, the intent is to develop a viable business model that will attract private sector participation and operate with minimal long-term public investment. Ultimately, the City could offer incentives to support car sharing, such as a residential flex pass or the use of priority spaces in parking garages and lots.

ACTION 1: Work with King County Metro and the University of Washington to establish a car sharing demonstration program and the car sharing service in Seattle neighborhoods.

ACTION 2: Develop on-street and off-street parking options for car sharing vehicles.

Evaluate and Implement Policy Reforms that Will Support TDM Programs

Strategy DM12 Unbundle Parking Spaces from Building Leases

Managing parking effectively is critical to the success of trip reduction efforts. King County Metro reports that 91 percent of their CTR-affected employers that met or exceeded trip reduction goals addressed parking in their TDM strategies. Failing to address parking will undermine the effectiveness of most other TDM strategies.

One major barrier to managing parking effectively is how parking is arranged in a building lease. Parking costs are often "bundled" within a building lease-i.e., not included as a separate charge-- so that a business owner cannot calculate their parking costs or lower their costs if they reduce their demand for parking.

This bundling of parking costs undermines efforts to implement TDM programs. When trying to promote a parking cash-out program (see Strategy DM2), for example, a business cannot determine the cash value of their parking spaces and has a more difficult task offering that cash allowance to employees in lieu of parking. They may not be able to save money by reducing the number of parking spaces they rent when employees choose not to park. Other TDM programs are also affected, including the City's discounted carpool and vanpool programs.

There are several ways to promote the "unbundling" of parking costs. It may be possible to require that building leases separate parking charges from lease payments. The City could also encourage businesses to unbundle their parking costs when leases are negotiated or re-negotiated. The City of

Bellevue has such a policy where certain downtown buildings have to distinguish parking within the building lease.

ACTION: Develop and implement strategies for discouraging and/or prohibiting the bundling of parking in a building lease.

Strategy DM13 Support Efforts to Evaluate and Reform Transportation Pricing

Transportation pricing has a major influence on people's travel decisions. One of the reasons people drive so much is that the direct costs of driving a car are extremely low. Adjusted for inflation, the cost of gas is lower than it was twenty years ago. While driving has many social, economic, and environmental costs, very few of these costs are paid directly by drivers.

According to a 1997 study from the Puget Sound Regional Council, citizens of the four central Puget Sound counties spent $21 billion on surface transportation in 1995, including all private and public costs. The single largest share was the cost individuals paid to own and operate private cars (over 60 percent). Eighty percent of that was the cost of simply owning the vehicle. The current estimate is that it costs about $5,000 per year to own and operate a new car driven an average of 10,000 miles. The truth is, driving is perceived to be nearly "free" once we've bought and insured the car.

Transportation pricing strategies seek to increase the cost of individual trips (e.g., through higher gas taxes or parking fees) and to transfer some of the fixed costs to a use basis (e.g., basing insurance charges on mileage). A number of transportation pricing strategies could generate significant transportation revenues and also have a substantial impact on people's travel decisions, thereby reducing congestion and pollution.

The City of Seattle does not have the authority to impose most transportation pricing mechanisms. The City must work at the regional, state, and federal level to support transportation finance reforms that tie transportation funding to use of the transportation system. The Puget Sound Regional Council will continue to look at transportation pricing and finance reforms. Seattle should support those efforts.

Seattle residents pay for public investments in transportation through a variety of taxes and fees including the gas tax, motor vehicle excise tax, license fees, sales tax, property tax, business and occupation tax, transit fares, and others. Many of these charges are not directly connected to how much an individual uses the transportation system. The City should pursue the development of revenue sources that are directly connected to use of the transportation system, including the gas tax (See Chapter VII Funding).

ACTION 1: Participate in regional, state, and federal efforts to reform transportation pricing. Support state and national policy, legislation, and tax reforms that encourage people to drive less.

ACTION 2: Pursue the development of transportation revenue sources that are directly linked to the use of the transportation system.

Strategy DM14 Advocate for the Incorporation of TDM Efforts in Major Corridor Projects

One of the most important findings in transportation research and evaluation is that the impact of TDM measures can be multiplied when mutually supportive techniques are used together in a

coordinated approach. The region can focus on coordinated strategies by targeting transportation corridors and developing distinct packages of TDM strategies that are customized for traffic conditions and target both work and non-work trips within those corridors.

The Puget Sound region is currently undertaking a series of important corridor projects, including Sound Transit, the Translake Study, and the I-405 Study. Seattle should be an assertive advocate for the integration of comprehensive TDM efforts into these projects. Agencies undertaking major corridor studies should give serious attention to a Transportation System Management alternative that includes a strong TDM component. TDM should also be incorporated into all alternatives.

ACTION: Advocate for the integration of comprehensive TDM efforts into major regional transportation projects.

Educate the Public About TDM and Transportation Issues

Strategy DM15 Educate the General Public About the Benefits of Using Transportation Alternatives and the Costs of Driving Alone

The success of the Transportation Strategic Plan depends on the willingness of the public to change their travel behavior. An effective education program can help change behavior and increase public support for improving transportation alternatives.

Most TDM efforts target businesses; the strategies below also involve the general public, including youth. The education strategies focus on two areas: developing a public awareness campaign, and working with the schools to bring transportation issues into the classroom.

Strategy DM15.1 Develop Education and Marketing Campaign

Education efforts are a critical part of the effort to change behavior. The City needs an aggressive campaign to promote the use of transportation alternatives and discourage driving alone. Efforts by the City and other jurisdictions to promote waste reduction, recycling, and energy conservation provide successful models.

The vast majority of TDM education efforts focus on peak-hour work trips, which represent only between 20 and 30 percent of all trips. Efforts to target non-work trips are on the rise. The City should actively promote trip reduction measures and the use of alternative modes for a broader range of trips and to a larger audience through public education, advertising campaigns, and promotional events.

ACTION 1: Work with other jurisdictions and agencies to develop and implement a creative, aggressive education and marketing campaign aimed at educating the public about the benefits of and promoting the use of transportation alternatives.

ACTION 2: Work with other jurisdictions and agencies to develop programs that promote the use of transit and other transportation alternatives for non-work trips.

Strategy DM15.2 Develop Transportation Education Programs for Seattle's Students

This strategy will encourage young people to think about how the transportation system works and how travel choices affect the community and the environment. The intent is to strengthen existing

programs and develop new ones where appropriate. The effort should cover a variety of issues for different age levels, including: pedestrian safety, how to navigate within the city by foot, bike, or bus, and the impacts of travel choices.

The City already has a successful education program on environmental conservation through the Seattle Environmental Education Committee (SEEC). It is a network of public agencies that works with educators to integrate environmental issues into existing curricula, provides grants to educators for program development, and coordinates education efforts among many departments.

Driver's education programs should also include a special focus on laws protecting pedestrians and supporting other modes (e.g., stopping for pedestrians in marked and unmarked crosswalks and yielding to buses), as well as content on the impacts and costs of driving.

ACTION 1: Work with the Seattle Environmental Education Committee and other existing transportation programs and agencies to develop effective transportation education programs.

ACTION 2: Work with the Seattle School District and other agencies to develop driver's education curriculum supplements on pedestrian and transit rights and on the full costs of driving.

Strategy DM16 Continue Recognizing Successful TDM Programs

The Commuter Challenge is a national model for employer recognition for effective Commute Trip Reduction (CTR) programs. The Commuter Challenge is sponsored and funded by the City of Seattle, King County Metro, the Washington State Department of Transportation, and other institutions. They present about 15 Diamond Awards each year to publicly recognize employers for their successful TDM programs. The program is housed within the Economic Development Council of Seattle and King County Metro.

The City of Seattle, with 240 CTR-affected employment sites, realizes a significant benefit from this program. It reinforces a collaborative approach to CTR implementation, provides an incentive for operating good programs, and helps educate employers about CTR opportunities.

ACTION: Continue sponsoring and participating in the Commuter Challenge program.

Strengthen Regional TDM Partnerships

Strategy DM17 Participate in Regional TDM Programs

As travel patterns in the region become more complex, regional coordination of TDM programs becomes more and more important to their success. Many trips, especially commute trips, are inter-jurisdictional. Although the City can make progress on its own, transportation is a regional problem and transportation services are provided by a number of jurisdictions and agencies - including King County Metro, the State Department of Transportation, and Sound Transit.

Local, regional, and state agencies have recognized the importance of TDM programs and included them in their transportation policies. The Puget Sound Regional Council's Metropolitan Transportation Plan relies heavily on TDM as one of the principal strategies for meeting the region's travel needs. Similarly, the State's Washington Transportation Plan includes policy direction for extensive demand management activities. The Puget Sound Regional Council and WSDOT's TDM Resource Center cosponsored a TDM Advisory Committee to study regional

TDM needs and solutions. This committee has produced a TDM Action Strategy for the Central Puget Sound Region.

This TDM report includes six major initiatives each with several strategies and actions. The initiatives are consistent with the strategies in this plan and suggest partnerships that can benefit the City and region. The City should support the Regional TDM Action Strategies and actively participate in further development and implementation.

ACTION: Assign City staff to serve on ongoing regional TDM committees for policy development and implementation. Support approval of the TDM Action Strategies for the Central Puget Sound Region by the Regional Transportation Policy Board.

ADDITIONAL STRATEGIES

Strategy A1 Incorporate Pedestrian, Bicycle, and Transit Improvements into Capital Improvement and Major Maintenance Projects

Capital improvement and major maintenance projects can offer an opportunity to retrofit existing streets and sidewalks to incorporate improvements for walking, bicycling, and transit. Some kinds of improvements can be relatively cheap (striping, signs, pedestrian crossing improvements) compared to the overall cost of the project.

Funding and space constraints may limit the range of improvements. However, every capital improvement and major maintenance project should fully consider all street users, adjacent land uses, and the character of the street and neighborhood. Streets slated for major projects should be evaluated from property line to property line (rather than just from curb-to-curb). Opportunities to improve facilities for pedestrians, bikes, and transit should be incorporated when appropriate.

ACTION 1: When undertaking street and utility capital improvement and major maintenance projects, evaluate and incorporate pedestrian, bicycling, and transit improvements whenever possible. Review private utility projects for similar opportunities.

ACTION 2: Evaluate training and information programs for City staff, design review boards, developers, and the public about how pedestrian, bicycle, and transit projects can fit into roadway improvements. Ensure that these groups are adequately informed about City policies and requirements. Strengthen and improve such programs as necessary.

Strategy A2 Work to Focus the Ferry System on Moving People Rather than Cars

Thousands of people and vehicles enter and leave Seattle on ferries every day, via Fauntleroy Terminal in West Seattle and the Colman Dock downtown. This traffic has a major impact on the city's transportation system.

The areas served by the ferry system on the other side of Puget Sound are growing rapidly. Demand for ferry service will increase. How that demand is managed has major implications for Seattle. Increasing passenger traffic is not a serious problem; increasing vehicle traffic has a host

of negative impacts ranging from hundreds of cars queuing for ferries to increased pollution and congestion at the terminals and throughout the city.

Washington State operates the ferry system and makes decisions about how to accommodate increasing demand--whether to provide additional ferry capacity for vehicles or passengers or both. Additional vehicle capacity will require terminal expansions, and the City has significant influence over expansions in terminal capacity.

Strategy A2.1 Encourage Washington State Ferries to Serve Increased Demand with Walk-on Passenger Service Rather than Additional Vehicle Capacity

Washington State Ferries is now working on a twenty-year system plan. The plan aims to meet the travel demands anticipated under the Vision 2020 regional growth plan. The ferry system plan should focus on an expansion of fast passenger-only ferries and limit the expansion of vehicle ferry service. Ferry pricing and boarding policies should be adjusted to make travel by single-occupant vehicles less attractive and encourage travel by other modes (walk-on passengers, bicycles, carpools, van pools, transit).

The City should also ensure that new or expanded ferry terminal facilities are consistent with a ferry system plan focused on increasing the passenger mode share. Where environmental review for the proposed terminal expansion reveals significant impacts on street systems and communities adjacent to ferry terminals, the City should consider limiting the number of vehicle ferry loadings and unloadings on an hourly basis as mitigation.

As the City promotes a policy of "constraint" for additional vehicle capacity on ferries and at terminals, it is important to develop boarding strategies and policies that address freight mobility concerns.

ACTION 1: Work with Washington State Ferries to adopt a long-term ferry system plan and other policies that foster a significant shift to passenger mode and that address freight mobility concerns.

ACTION 2: Work with Washington State Ferries to ensure that efforts to expand ferry terminal facilities reflect a system plan focused on increasing the passenger mode share. Consider restricting vehicle loadings and unloadings if necessary.

Strategy A2.2 Improve Transit Connections for Walk-on Ferry Passengers

Many ferry commuters drive onto the ferry and then through Seattle streets because there are no convenient transit connections to their ultimate destinations. This strategy aims to explore options for improving the transit choices available to walk-on ferry passengers.

King County Metro can improve transit options for ferry passengers by: 1) providing more direct service to terminals, 2) improving service to destinations sought by ferry passengers, and 3) improving the quality and convenience of the information about transit connections. In addition, the City and King County Metro can work together to improve walking routes from Colman Dock to other nearby transit connections and to downtown destinations.

There may be enough ferry passengers going to similar destinations to support a shuttle service between the ferry terminal and specific destinations. As vehicle waiting times increase, the price

people are willing to pay for transit connections that allow them to avoid the wait in their car will also increase. Vehicles now average a one-boat wait during peak periods on weekdays, a figure expected to increase to a two-boat wait by 2015.

ACTION 1: Work with King County Metro and Washington State Ferries to improve transit connections for ferry passengers, and to provide for bus access at terminals.

ACTION 2: Participate in efforts to explore alternative transit services connecting Colman Dock with specific destinations.

Strategy A3 Optimize the People-moving Capacity of Existing Streets

Traffic congestion on arterial streets is bad and will get worse. While expanding the street system is not a viable or effective option, there are things the City can do to maintain the capacity of the existing streets--strategies that help to both maintain traffic flows and discourage drivers from detouring onto neighborhood streets.

When appropriate, the City should use advanced traffic signal controls to improve the traffic-carrying capacity of city streets. Examples include signal interconnects and detectors that make it possible to time traffic lights along a street to maximize its vehicle-carrying capacity. For instance, loop detectors are wires placed under the road surface that react to vehicles approaching or stopped at traffic signals (they detect metal from cars, bicycles, trucks, and buses). Detectors allow longer green lights on the more heavily traveled through streets. These measures can aid buses as well as cars.

Signal timing improvements can also improve traffic flows. The City has not had the resources to regularly update its signal timing, and the stoplights on many streets are not well-synchronized. SEATRAN is now working to move from a 20-year cycle to a five-year cycle, and has a hotline and e-mail address for signal timing complaints (684-ROAD or traffic.signal@ci.seattle.wa.us).

Signal timing decisions must balance a wide variety of factors, including the volume (light, heavy) and types of traffic (pedestrian, vehicle) and cross traffic, and the timing of other signals in the corridor. As a result, signal timing is not based on any one consideration.

Nevertheless, the City does have priorities, depending on the location. These priorities are weighted more heavily in the balance of factors that influence signal timing. All walk cycles must provide adequate time for the average "slow pedestrian" to cross the street. In areas with substantial pedestrian traffic, minimizing pedestrian waits is a priority. While the City does place a higher priority on moving buses than general traffic, on most streets there is no way to distinguish between the two in terms of signal timing. The City is now working with King County Metro to install transit priority systems in a few key locations that allow stoplights to give buses a priority (see Strategy T2.2).

ACTION 1: Use signal timing improvements to improve traffic flows on arterial streets, subject to pedestrian and transit priorities. Accelerate cycle for re-timing signals to five years.

ACTION 2: Use signal interconnect, detection, and control systems to coordinate traffic signals to increase the capacity of existing streets.

Trade-offs: Capacity-enhancement measures should not be implemented where they significantly conflict with other TSP strategies or where they would force pedestrians into long waits to cross the street, especially on Key Pedestrian Streets or in other areas with significant pedestrian traffic. Timed signals may also increase average vehicle speeds along the timed route.

Strategy A3.1 Use Intelligent Transportation Systems Effectively

Intelligent Transportation Systems (ITS) use advanced technologies to manage congestion and improve the efficiency of the existing street system. A currently funded project is developing an ITS plan for Seattle. The master plan will likely include the following short- to mid-term implementation packages: Traffic Management Center revisions, Traffic Signal Control (adaptive, optimization, transit priority), Information Dissemination, Commercial Vehicle Operations, Communications Plan, Emergency Management Interface, Event Management Coordination, Railroad Interface Operations, Detection (closed circuit TV, pedestrian), Safety Improvements, and Data Archiving.

ACTION 1: Participate in efforts to complete an ITS plan for Seattle that manages congestion and improves the efficiency of the existing street system, while protecting neighborhoods and emphasizing people-carrying capacity over vehicle-capacity.

ACTION 2: Implement ITS improvements.

Strategy A4 Use Traffic and Parking Enforcement and Education Programs to Improve Safety and Mobility

To be effective, traffic laws and land-use regulations must be understood, supported, and enforced. The education component is critical. Unless people understand and are familiar with laws, compliance will be minimal at best.

Traffic violations are dangerous, especially for the most vulnerable groups: young and elderly people. Violations that most endanger pedestrians and bicyclists include running lights, making unsafe right and left turns across occupied crosswalks, failing to stop for people in crossings, and traveling at excessive speeds. Illegally parked cars on sidewalks, on bicycle facilities or in transit stops can impede the safe travel of all these modes.

In 1995, according to the Washington Traffic Safety Commission, 2,029 pedestrians were struck by motor vehicles across the state; 75 of these people were killed (about 12 percent of all people killed in traffic-related collisions). The national fatality rate for pedestrians is equivalent to a commercial airline crash occurring once every two weeks for a year. In the first nine months of 1996, 370 pedestrians in Seattle were struck by cars. Nearly 30 percent of these people were crossing the street in a crosswalk with the walk light. Traffic enforcement can make a difference. Coupled with motorist education, the strong, consistent, and effective enforcement of traffic laws improves traffic safety.

Drivers that do not obey the yield to buses law, delay buses substantially as they try to pull out from bus stops. These delays make it difficult for the buses to remain on schedule. Intersection blocking by vehicles that fail to clear the intersection before the light turns also creates traffic delays.

Parking enforcement of meters, time-limited spaces, carpool and disabled spaces, loading zones, and residential parking permit areas plays a crucial role in a successful neighborhood parking management program. The primary focus of enforcement is to ensure safety, e.g., no parking 30 feet from intersections and stop signs, or within 15 feet of a fire-hydrant. Enforcement also helps with traffic movement and mobility, e.g., no parking during peak hours. It ensures turnover of parking spaces by encouraging compliance with short-term parking signs and meters. Parking enforcement also removes abandoned and "junked" cars from city streets. Lastly, parking enforcement generates revenue for the General Fund.

Education is a critical part of a good enforcement strategy. Explaining to people the potentially tragic results of failures to obey traffic laws may be just as effective as a ticket and a fine. One possibility is to model traffic safety brochures on the anti-drunk driving advertisements that feature injured or dead people.

Traffic enforcement resources are limited. The Seattle Police Department currently has 30 officers in the motorcycle unit, 15 in the traffic enforcement (motor vehicle) section, and seven officers focusing on the driving under the influence program. There are 65 parking enforcement officers that are geographically assigned around the city. These numbers may change with the 1999-2000 City budget.

The City does not have the resources to implement a general increase in the level of enforcement, but can use "emphasis campaigns," where police officers target problem areas with substantially increased enforcement for a brief period of time.

ACTION 1: Analyze accident and incident patterns and use the data to develop a cost-effective enforcement program that improves traffic safety and targets those violations most likely to result in injury or death.

ACTION 2: Expand efforts to educate the public about traffic safety issues, including drivers, bicyclists, and pedestrians. Work with existing transportation safety interests and agencies to develop effective traffic safety education programs.

ACTION 3: Develop informational brochures and other communication strategies to be distributed to drivers stopped for traffic violations. These should detail the specific rates and incidents of injury and death caused by unsafe driving habits.

ACTION 4: Develop "emphasis campaigns" targeting specific traffic violations.

Strategy A5 Expand Availability of Taxi Stands and Taxi Queuing Areas

Taxis are a natural extension of walking and transit and could be much more widely available and convenient. They are an economical alternative to car ownership. The easy availability of taxis makes walking and transit more attractive as people know they have an alternative if an emergency arises or if they buy large, hard-to-carry items.

Currently taxi service in the city is available by telephone and from a limited number of taxi stands located primarily downtown. The City should support easy access to taxi service from large transit generators, urban villages, major institutions, and in residential neighborhoods.

Reserved, on-street taxi parking spaces should be scattered around the downtown and located centrally in urban villages' and urban centers' business districts, with multiple locations in larger villages and centers. In smaller urban villages or where taxi demand is not frequent and taxis are unlikely to wait for customers, the taxi stand should include a phone offering direct lines to taxi companies serving that site.

ACTION 1: Work with businesses, property owners, and neighborhoods to create taxi stands throughout the downtown and in urban villages. Restrict use of taxi stands to occupied, in-service taxis.

ACTION 2: Encourage garages and lots serving buildings or locations with high demand for taxis to provide off-street queuing areas near the garage entrance.

Trade-offs: Additional on-street parking for taxis takes away the curb space of other uses.

Strategy A6 Improve On-street Traveler Information and Navigation Guides

New technologies, originally developed for the military and space programs, are finding down-to-earth applications in transportation. Global positioning satellite technologies and advanced two-way communications systems are being combined into real-time traveler information systems. For drivers, there are electronic signs warning of delays and detours and freeway traffic condition maps on the Internet. And, of course, there are radio traffic reports.

These improved signs and new technologies could promote walking, biking, and transit by providing greatly enhanced way-finding information along Seattle's streets, in its urban villages, and at places of interest along the way. The City should develop and display extensive information on streets throughout Seattle showing the location of places and mapping the travel routes between them. While there may be unifying design elements serving the entire city, each neighborhood may develop different on-street signs and mapping showing local landmarks and major connections.

ACTION 1: Develop and display on-street maps and travel information targeted to pedestrians, cyclists, and transit riders.

ACTION 2: Participate in efforts to provide real-time traveler information.

PROTECTING AND ENHANCING NEIGHBORHOODS

Transportation is as much about people and places as it is about streets, cars, buses, and bicycles. Transportation choices shape the appearance and character of our neighborhoods. Neighborhoods oriented to cars are not people-friendly places. A sense of community is created by interactions that happen on sidewalks and front porches and in parks, not in parking lots.

We experience the impacts of the transportation system most personally in our neighborhoods. We struggle with neighborhood parking in a city that has more registered vehicles than drivers. We try to keep high-volume, high-speed traffic off neighborhood streets because the associated pollution and noise make our neighborhoods less pleasant places to live, and the hazards of speeding traffic make neighborhood streets unsafe. Research shows that people living on streets with higher traffic volumes are less likely to know their neighbors and have fewer friends on their street. They also

define their "home space" as a much smaller area that ends at their front door, as contrasted with the entire block for people living along streets with low traffic.

The pattern of development in neighborhoods also affects transportation choices. Compact development that includes a mixture of residential and commercial uses makes it possible for people to shop and play near their homes--making bicycling and walking feasible and attractive. Higher density development generates higher transit ridership. People are more likely to walk and bicycle along a safe street with wide sidewalks lined with pleasant and engaging scenery. They are less likely to walk and bicycle along a street dominated by parking lots and speeding cars. These differences are some of the many factors that explain why a Bellevue resident is 30 percent more likely to drive to work alone than a Seattle resident.

The Transportation Strategic Plan proposes a variety of strategies to protect and enhance the appearance and character of neighborhoods.

Neighborhood Planning and the Transportation Strategic Plan

Transportation concerns have played a prominent role in the neighborhood planning process. The Transportation Strategic Plan has several implications for neighborhood planning.

The TSP includes a number of new and existing tools that neighborhoods may find attractive. Examples include Strategy N1: Neighborhood Traffic Control Program, Strategy W4.2: Key Pedestrian Streets, and Strategy N4.1: Strengthen Minimum Standards for Pedestrian Conditions.

While neighborhood planning is the ideal forum for implementing these strategies, funding limitations and other issues may delay work on many strategies until after the Neighborhood Planning Office programs have ended. Thus, when the strategies call for working with neighborhoods, the work may include post-Neighborhood Planning Office efforts.

The City's ability to fund transportation improvements is very limited. Identification in a neighborhood plan is one of the prioritization criteria for many strategies (See Chapter VIII: Priorities), but there are also other criteria of equal or greater importance. To the extent that neighborhood projects are consistent with the City's other transportation priorities, they are more likely to receive funding.

Early results from the neighborhood planning work groups suggest that they would like to see a much greater emphasis on non-auto transportation alternatives and the recognition of streets as places as well as thoroughfares. While most recognize the need to continue to accommodate the auto as the most common travel mode, they also express a strong interest in slowing traffic and reducing its impact on their neighborhoods.

Strategy N1 Continue Seattle's Neighborhood Traffic Control Program

The City's Neighborhood Traffic Control Program is probably the most popular transportation program in Seattle's neighborhoods. SEATRAN gets 600 requests a year from neighborhoods to install traffic circles.

Traffic calming devices slow or divert traffic on neighborhood streets, protecting them from accidents, excessive speeds, and diversions off arterials. Seattle is a national leader in using traffic

calming devices in residential neighborhoods and has had great success in reducing traffic accidents and traffic speeds.

Slowing devices, such as traffic circles and chicanes, are very effective at reducing speeds and preventing accidents. See Strategy W1.1: Upgrade Crossings to Improve Pedestrian Safety and Convenience for illustrations. They also reduce the amount of vehicle traffic that cuts through residential neighborhoods. Slowing devices are specifically designed, however, not to restrict street access. Because they do not change neighborhood-wide circulation patterns, community involvement can be limited to the adjacent and nearby residents of a few local streets. Seattle also continues to evaluate the effectiveness and drawbacks of speed humps in appropriate circumstances.

Traffic diverters restrict access by direction of travel (partial closures), by restricting particular movements (diagonal diverters), or by totally closing the street (cul-de-sacs). Because they have much broader circulation impacts compared to traffic-slowing devices, their use is limited to particular circumstances or as a last resort. Traffic diverters can also limit emergency and service vehicle access to a neighborhood.

ACTION: Continue Seattle's Neighborhood Traffic Control Program.

Strategy N2 Improve Streetscapes on Central Streets Through Urban Villages

Urban villages are Seattle's central places. This strategy calls attention to the fact that neighborhood business districts must be pleasant and attractive places to walk, bicycle, ride the bus, and just linger. People and cars can mix well in commercial districts if their competing needs are carefully addressed.

Almost every urban village is defined by at least one major arterial running through its business district, along which the district's central commercial activities have developed. While it is important not to divert traffic to neighborhood streets, an urban village's central street should not be a high-speed thoroughfare for cars.

The Transportation Strategic Plan outlines a host of actions designed to make urban villages more bicycle-, pedestrian-, and transit-friendly. In summary, these strategies are designed to:

- Make walking and bicycling safe and attractive

- Slow traffic, but keep it on the arterial street

- Improve transit

These strategies should be used to increase the vitality of neighborhood business districts. They need to be supplemented, however, with streetscape improvements that add character and liveliness to the street. Strategies include installing street trees and other landscaping, street furniture, wide sidewalks, attractive lighting, and public art.

ACTION 1: Work with neighborhoods and neighborhood business associations to design, fund, and implement transportation and streetscape enhancements on central streets through urban villages.

ACTION 2: Designate central streets through urban villages as Key Pedestrian Streets (see Strategy W4.2), as appropriate. Coordinate streetscape improvements with these Key Pedestrian Street designations.

Strategy N3 Support Development of Full Service Neighborhood Business Districts

Shopping and personal business trips account for approximately one-third of all miles-traveled. Keeping these trips in the neighborhood both reduces their length (which now average about five miles) and increases the likelihood that they can be made on foot, bicycle, or by bus. This strategy promotes shopping within neighborhoods by helping Seattle's urban villages to offer a full range of products and services to meet people's day-to-day needs.

The City is currently working with several neighborhood business districts to develop business retention, recruitment, and marketing strategies. In addition to the City's ongoing economic development activities, the Neighborhood Planning Office is providing technical assistance to neighborhoods in identifying revitalization and marketing strategies for their business districts. The City can implement these actions through its current neighborhood and economic development programs.

ACTION 1: Work with neighborhoods and business associations to identify gaps in the provision of basic goods and services in neighborhood business districts.

ACTION 2: Work with neighborhoods and business associations to provide information about successful business recruitment strategies.

ACTION 3: Plan and host annual forums on "Bringing Business to Your Neighborhood" to generate and share information.

Strategy N4 Encourage Transit and Pedestrian-oriented Development

There is a powerful relationship between travel behavior (the types of trips made and how they are made) and land use (the location, use, and design of places where trips begin and end). Sprawling, low-density developments that separate housing, shopping, and employment encourage people to drive. Compact, mixed-use, people-oriented developments support walking, bicycling, and transit.

At the street level, individual development projects can be sited and designed to support transit use. Critical densities and mixtures of land uses at the community level also promote transit. While these design and land-use strategies are generally referred to as Transit-oriented Development (TOD), they are also inherently pedestrian-friendly.

The Comprehensive Plan, through its urban village and center strategy, sets strong policy direction that supports the location of housing, employment, and commercial activity in densities and mixes that are conducive to walking, bicycling, and transit. It aims to reinforce housing and transit strategies by targeting both to the same areas. Additionally, the Land Use Code already contains numerous requirements and incentives that support transit-oriented development. Examples include zoning classifications and regulations that restrict where parking is located, allow less parking, allow higher densities for mixed-used developments, and require landscaping.

The strategies below build on existing City programs and tools in the development approval process to promote transit-friendly designs for buildings and streets. They also identify gaps in

current codes or practices that offer new opportunities to promote TOD. Filling these gaps is particularly important now with the coming of the new regional rail system.

Strategy N4.1 Strengthen Minimum Standards for Pedestrian Conditions

As mentioned previously, the Land Use Code already contains numerous requirements and incentives that support pedestrian conditions. But there is definitely room for improvement, especially in auto-oriented commercial zones.

One example is block size. City block size influences walking patterns. Some areas of the city have been laid out with very large blocks, or "superblocks." Typically, "superblock" development is low density and suburban in character, with buildings set back from the street and surrounded by large expanses of parking. These conditions make walking from a store entrance to the bus stop a long, unpleasant, and sometimes dangerous experience. Improving pedestrian circulation and providing direct pedestrian connections between buildings will increase transit use in these areas.

Other opportunities to improve pedestrian conditions include:

- Requiring sidewalks that are wide enough to ensure pedestrian safety and comfort in all areas.

- Developing design guidelines for automobile-oriented commercial areas that address design solutions for increasing pedestrian access, comfort, and safety while minimizing conflicts with automobiles. For example, building entrances should be designed to place a principal entrance on or near the sidewalk, with a direct, dedicated walkway linking it to the sidewalk.

- Develop special screening and landscaping requirements to enhance the pedestrian environment for properties in auto-oriented commercial zones that are located along major transit and pedestrian routes. Requirements would address conditions both in the abutting public right-of way and on the property edge along the street.

- Revise landscaping requirements for large surface parking areas on lots in automobile-oriented commercial zones to provide landscaped pedestrian walkways across the lot that link building entrances with the street.

ACTION 1: Review the Land Use Code for opportunities to improve minimum standards for pedestrian conditions. Develop Code changes to implement higher standards as appropriate.

ACTION 2: When reviewing applications for rezones and street vacations, identify opportunities for improving pedestrian circulation and incorporate improvements into the conditions placed on the proposed vacation or rezone.

Strategy N4.2 Make Streets with Substantial Transit Service Pedestrian-friendly

Offering transit riders a safe and attractive trip to, and wait at, the bus stop is critical to maintaining and increasing transit ridership.

ACTION 1: Include transit access in the criteria for prioritizing pedestrian improvements.

ACTION 2: Apply the Key Pedestrian Street designation (see Strategy W4.2), as appropriate, to streets providing access to frequent levels of transit service. Use this designation to promote public and private actions that support transit use and improve conditions for transit riders.

ACTION 3: Increase sidewalk widths and improve other pedestrian conditions on streets in areas with frequent levels of transit service (See Strategy N4.1). Require that the sidewalks on Key Pedestrian Streets be built or expanded (as feasible within existing rights-of-way and building siting) to at least 12-feet in width. Maintain minimum clear widths as specified in the Street Design Manual.

Strategy N4.3 Use Design Review to Promote Transit-oriented Development Strategies

The City's existing design review process includes pedestrian-friendly guidelines. The City recently extended the design review process to include areas where the potential for more intensive development makes it important to improve conditions for transit use. In early 1998, design review was extended to Commercial C1 and C2 zones within urban villages. The next step is to expand design review guidelines to provide additional guidance supporting transit-oriented development.

ACTION: Supplement existing design guidelines to include additional guidance promoting transit-oriented development, including features addressed in Strategy N4.1. Include both Sound Transit station planning areas and other parts of the city.

Strategy N4.4 Support Transit Ridership Goals with Appropriate Development Densities

A cost-effective transit system is one that gets used. Higher commercial and residential densities around transit routes and stations help increase transit ridership. A major goal of the Comprehensive Plan is to provide better transit service in the areas of the city with the highest densities. Areas around Sound Transit stations should be allowed to accommodate higher densities.

Building new multi-family residential units in auto-oriented areas with little or no transit service, conversely, undermines efforts to increase walking, bicycling, and transit ridership. Currently, the Land Use Code allows higher density mixed-use developments in auto-oriented areas. The City should encourage developers to locate higher-density housing near transit and reconsider Code provisions that encourage or allow higher densities in areas with poor transit service.

ACTION 1: Evaluate the Land Use Code for potential provisions for development densities to ensure support for the City's transit ridership goals. Work with neighborhoods to revise the Code to create incentives or requirements as appropriate (see Strategy N4.5). Include strategies that support increased residential densities in a package of land use review and development incentives for Sound Transit station areas (see Strategy ST4: Station Area Planning).

ACTION 2: Coordinate efforts to develop affordable housing with transit improvements. Reinforce both by targeting to same areas.

Strategy N4.5 Evaluate Density Standards

Minimum density standards are one tool other cities have used to encourage more efficient use of land and promote development densities sufficient to support transit use and pedestrian activity. They would apply to those zones or areas where it is important to ensure that available sites are

more fully developed in order to accommodate growth targets, either for the city overall or for a particular location, such as a light rail station area. Density requirements would specify the minimum number of residential units and/or amount of non-residential floor area required for any new project.

Density standards would have to be flexible enough to address a wide range of land uses, market conditions, and development implications. Poorly executed, minimum density requirements could inhibit development by creating standards that are not economically viable. One option is to allow development that is less dense than the minimum requirement if site plans demonstrate how future development could be accommodated. The intent is to allow development to respond to current market demand, while not foreclosing opportunities to expand or accommodate new activity in the future. Efforts to evaluate requirements should also examine potential incentives for developers to meet density standards.

ACTION: Analyze the effectiveness and impacts of density standards, drawing on the experience of other jurisdictions. Develop requirements and/or incentives if appropriate.

Strategy N5 Support Location Efficient Mortgages

A "Location Efficient Mortgage" is an innovative mortgage product that recognizes the interdependence between transportation and housing, retail services, open space, and other features that make neighborhoods vibrant and active. Households in compact mixed-use communities with good transit service spend less on transportation than households in other areas, because they are able to reduce their ownership and use of cars.

Location Efficient Mortgages translate these household savings into increased home-owner borrowing power by increasing the mortgage amount allowed by the standard lending formula banks now use. This helps buyers avoid being forced into distant low-density areas, where they must own a car and drive to every destination.

The City is currently working with an area bank, Fannie Mae, and non-profit organizations to develop and implement a Location Efficient Mortgage program. They expect to develop a financial model to determine where to allow these mortgages and then establish the program in 1999.

ACTION: Work with interested banks and other institutions to develop, implement, and promote location efficient mortgages.

Strategy N6 Expand Use of Street Rights-of-Way for Public Open Space

A Green Street is a designated street right-of-way enhanced for pedestrian circulation and passive open space use. Treatments include sidewalk widening, landscaping, traffic calming, and other pedestrian-oriented features. Green Streets can help integrate public open space and pedestrian circulation within a neighborhood, by emphasizing important connections between pedestrian destinations and--in some situations--providing a focus for public activity.

Using the Green Streets criteria in the City's Open Space Policies, the City should work with neighborhoods to identify streets appropriate for a Green Street designation as part of a comprehensive circulation and open space plan for the neighborhood.

ACTION 1: Work with neighborhoods to continue designating and improving appropriate rights-of-way as Green Streets.

ACTION 2: Assist in developing plans and funding strategies for pedestrian and open space improvements on designated Green Streets. Strengthen incentives for developers to fund Green Street improvements.

PROTECTING OUR ENVIRONMENT

One of the main goals of the Transportation Strategic Plan is to reduce the environmental impacts of our transportation system. Congestion and pollution are taking an increasing toll on our quality of life. Transportation—primarily cars—is Seattle's biggest source of pollution.

There are two ways to reduce the environmental impacts of driving. One is to reduce the amount of driving. Many TSP strategies are designed to reduce driving by making walking, bicycling, public transit, and carpooling more attractive. The second way is to make the driving that does occur less harmful—by reducing vehicle emissions, for example.

Given that cars and trucks will continue to be our most heavily used transportation options, strategies that seek to reduce their impacts are particularly important. The strategies in this chapter aim to reduce the impacts of the driving that does occur. They focus on three areas: fuel efficiency, alternative fuels, and noise. The City is also working to reduce the impacts of its own vehicle fleet. The Environmental Management Program is developing recommendations designed to increase the efficiency of and reduce emissions from the City's fleet.

Strategy ENV1: Advocate for More Fuel-efficient Vehicles

Greater fuel efficiency and the use of cleaner-burning fuels are essential to reducing the air quality impacts of vehicle use. The oil shortages of the early 1970s started a trend toward smaller, more fuel-efficient vehicles, but in more recent years, that trend seems to have reversed. The increased popularity of fuel-inefficient sport utility vehicles is part of the problem. They have become the standard vehicle for many households. As a result, the combined corporate average fuel economy (CAFE) for passenger vehicles and light trucks has begun to decrease in the last three years.

The federal government sets the CAFE or fuel efficiency standards for new vehicles. As our technological capabilities advance, fuel-efficiency should continue to increase. There have been significant advances in automobile efficiency since 1995, but they have been applied to power, acceleration, and accessories, not fuel economy. The City should continue to lobby as an agency for higher fuel efficiency standards and build awareness of the continued need to use fuel-efficient vehicles.

ACTION: Lobby, with other cities and organizations, for higher fuel efficiency standards.

Strategy ENV2: Encourage the Development and Use of Cleaner-fueled Vehicles

The technology for alternative fuel vehicles, including electric vehicles, has improved significantly in recent years and will continue to improve. These advances make alternative fuel vehicles a more

viable alternative to gasoline and diesel-powered vehicles, although the rapid advances raise questions about the benefits from continued improvements before making major investments.

The Energy Policy Act of 1992 requires the federal and state governments and energy providers to purchase alternative fuel vehicles for their fleets. Mandates for municipal and private fleets may be required in the future (decision from the U.S. Department of Energy is expected in 2000). As an energy provider, City Light is subject to alternative fuel vehicle acquisition mandates. The City has responded to the Energy Policy Act and its own concern for cleaner and more fuel-efficient vehicle use by adding alternative-fueled vehicles to its motor pool.

The City can provide a model for using alternative fuel vehicles and develop partnerships with private businesses to provide the infrastructure needed to support alternative fuel vehicles. A critical part of that infrastructure is fueling facilities and recharging stations for electric vehicles.

The City is partnering with state and local agencies and non-profit organizations to form the Puget Sound Clean Cities Coalition. This coalition is part of the Clean Cities Program, sponsored by the U.S. Department of Energy (DOE). The Clean City designation makes the Coalition eligible for grants from DOE and other federal agencies. The Coalition's overall goal is to encourage and accelerate the use of alternative fuel vehicles in the area. The Coalition aims to create partnerships to establish an alternative fuel vehicle market and infrastructure and to make the use of alternative fuel vehicles both efficient and economically viable. The following actions support the objectives of the Clean Cities Coalition.

ACTION 1: Create strategies and materials to educate the general public and fleet operators about the potential of alternative fuel vehicles.

ACTION 2: Work with federal, state, and regional partners to develop incentive programs to encourage alternative fuel vehicle use by private fleets.

ACTION 3: Develop partnerships for the creation of new refueling stations.

ACTION 4: Explore the potential of new and amended state and federal legislation to promote and support alternative fuel vehicles.

ACTION 5: Support the development of electric vehicle recharging infrastructure at commercial and public outlets.

ACTION 6: Encourage transit providers and other large vehicle fleet owners to consider alternative fuel vehicles as they replace their fleets.

Strategy ENV3: Reduce the Noise Impacts of Freeway and Arterial Traffic

The noise caused by vehicular traffic can have serious impacts on neighborhoods. Many factors affect the intensity and type of noise from traffic, including vehicle type and age and vehicle speeds. The type of pavement also is a factor, and there is some research into the development of quieter pavements and paving methods. Freeways account for much of the noise problem, due to the high speeds and traffic volumes. Finally, the geography of an area can both contribute to increased noise impacts and make mitigating those impacts more difficult.

The City can advocate to the Washington State Department of Transportation (WSDOT) for measures to mitigate noise associated with freeways. This includes constructing noise walls through established neighborhoods, limiting hours of operation on the express lanes, conducting studies of noise impacts and other mitigation, and researching quieter pavement materials and related technologies. Paving advances could be applied to the City's arterial streets as well.

ACTION 1: Lobby WSDOT to mitigate noise impacts from freeways and to conduct research into quieter pavement methods and related technologies.

ACTION 2: Work with WSDOT to develop measures to reduce noise impacts in neighborhoods affected by freeway and arterial traffic.

MOVING FREIGHT AND GOODS

The continued ability to move freight and goods by rail, truck, water, and air is absolutely critical to Seattle's and the state's economic development. The everyday delivery of goods and services purchased by the general public, businesses, and the government is also critical to the success of every sector of the economy, from multinational businesses headquartered in high-rise office buildings to mom-and-pop corner stores. Washington is the most trade-dependent state in the country. One of five jobs (about 600,000) are related to international trade. This trade will continue to grow, fueled by the reliance of American consumers on overseas goods.

The Comprehensive Plan includes two basic goals for freight movement:

- Maintain Seattle as the hub for regional goods movement and as a gateway to national and international suppliers and markets.

- Preserve and improve commercial transportation mobility and access.

Freight mobility issues are particularly important for Seattle's two designated Manufacturing and Industrial Centers—the Duwamish area and the Ballard/Interbay/Northend area. These two industrial centers are expected to accommodate at least 10 percent of Seattle's new employment over the next 20 years—nearly 15,000 new jobs. Direct connections to water, rail, and truck facilities are important to a vast array of existing and potential businesses in these areas.

This Transportation Strategic Plan chapter identifies specific strategies and actions needed to support freight movement. Many are focused on improving freight access to the Manufacturing and Industrial Centers.

Truck Access

All of Seattle's businesses and residents rely on freight shipped via trucks in one way or another. While light trucks play an important role, the freight industry is generally moving towards the use of larger trucks to haul materials to and from construction sites, support manufacturing and industrial businesses, connect ships and railroads, and make regional, interstate, and international trips. Moving these larger trucks on city streets can be a challenge.

Strategy FM1: Improve Major Truck Streets to Support Safe, Efficient Truck Movements

While all arterials within the city are considered truck routes, a designated network of Major Truck Streets provides primary routes throughout the city. The following strategies outline ways the City can improve conditions on Major Truck Streets.

Strategy FM1.1: Fix Site-specific Obstacles to Truck Movements on Major Truck Streets

The City's Major Truck Streets are made up of existing arterials; very few of these routes were designed or constructed to accommodate trucks of the size that are commonly in use today. As arterials are reconstructed, changes are made to accommodate larger vehicles, but many problem areas will not be reconstructed for many years. A "spot improvement program" to correct conditions in major freight corridors would enhance trucks' ability to operate on the existing streets until they are reconstructed.

Improvements that support truck movement include increasing curb radii on critical corners, removing on-street parking in key locations, relocating utility poles that are too close to the curb, providing truck queue lanes/holding lanes at major terminal access points, and making other similar changes.

ACTION 1: Develop a prioritized list of truck problem areas and solutions along Major Truck Streets. Coordinate with the neighborhood planning process, as appropriate.

ACTION 2: Work with King County, the Port of Seattle, and other partners to implement solutions.

Trade-offs: Some improvements that support truck mobility can reduce pedestrian safety (e.g., increasing curb radii or moving utility poles away from the curb). Increased truck movements can interfere with other traffic.

Strategy FM1.2: Review Design Standards to Ensure that the City's Arterial Streets Can Accommodate Trucks

Trucking operators are concerned that the City's existing street design standards are not adequate for trucks currently in use. The City should review the current standards and modify them as appropriate to ensure that when arterials—especially Major Truck Streets—are redesigned and rebuilt, they are better able to accommodate truck movements. Design standard updates require a comprehensive process that involves review by staff and advisory boards responsible for a broad range of concerns (i.e., trucks, public transit, pedestrians, and bicycles).

ACTION: Review and update the City's Standard Plans and Specifications and Street Design Manual, as appropriate.

Trade-offs: In neighborhood business districts and other busy pedestrian areas, improvements that support truck mobility can decrease the attractiveness of streets for people. Where arterials run through residential neighborhoods, increased truck traffic can negatively affect neighborhoods.

Strategy FM1.3: Improve Pavement Conditions on Truck Access Routes

Truck access routes tend to deteriorate more quickly than other streets due to the heavier loads and higher volumes. Major Truck Street status should be one of the criteria for determining paving priorities.

At present, there may be streets that are heavily used by trucks, but which are not classified as arterials.

ACTION 1: Make Major Truck Street status one of the criteria for determining paving priorities.

ACTION 2: Add non-arterials critical to industrial access to the City's paving program.

Strategy FM2: Minimize Conflicts Between Trucks and Other Transportation Modes

Conflicts between trucks and other transportation modes (trains, cars, pedestrians, and bicyclists) can create safety problems and cause expensive delays. Minimizing such conflicts would make truck trips safer and more efficient and support economic development.

Strategy FM2.1: Grade Separate Key Truck Routes at Heavily Used Railroad Crossings

Rail crossings on major truck routes are a difficult obstacle to truck movement, especially in the South Downtown area. Grade separation is the most effective way to eliminate these conflicts and is one of the City's highest freight mobility priorities. But it is extremely expensive and is justifiable only where there is significant traffic on both the truck route and the rail line.

As the number and length of trains on the main rail line through Seattle increase, arterials that cross the tracks in South Downtown have become prime candidates for grade separation. The City has begun working with the State and the Port of Seattle to develop projects.

ACTION 1: Develop a priority list of grade separation projects and seek funding partners for implementation; lobby the State Legislature and United States Congress to obtain state or federal funding.

ACTION 2: Implement projects.

Strategy FM2.2: Explore Strategies for Minimizing Other Conflicts Between Trucks and Other Transportation Modes

There are a number of other basic conflicts and potential solutions that the City needs to evaluate. There are often conflicts between heavy truck traffic and other transportation modes, especially in dense urban centers and residential areas. Solutions include identifying alternative routes and developing separate facilities, as well as clarifying priorities for specific locations. The City does have staff and advisory boards that review capital project designs in an effort to identify and minimize potential conflicts.

ACTION: Identify and implement techniques for minimizing conflicts between trucks and other transportation modes.

Railroad Access

Rail is an essential and efficient option for moving freight and goods and provides an alternative to trucks for many industrial and manufacturing businesses, especially for moving bulk materials. The use of containers on rail and trucks is growing and pushing the capacity of the region's railroads. Plans are also progressing to increase passenger rail service on the same rail lines. All of this activity strains the crossings between city streets and rail lines. The following policies are designed to support the efficient movement of freight and goods by rail.

Strategy FM3: Minimize Conflicts Between Rail Facilities and Other Transportation Modes

Increasing rail operations combined with longer freight trains increase conflicts where the rails cross roadways. Reducing these conflicts can make rail operations more efficient as well as improve safety and traffic flows.

Grade separation for key arterials is covered under Strategy FM2.1.

Strategy FM3.1: Relocate Facilities to Avoid Major Conflicts Between Modes

Grade separation is extremely expensive and justifiable only where there are high traffic volumes on both the road and the rail line. Often less costly solutions will work where either or both facilities are modified to reduce conflicts and provide benefits similar to grade separation. Such changes include creating detour routes, closing crossings, and modifying or relocating tracks.

ACTION: Develop a prioritized list of "relocation" projects and seek funding partners for implementation.

Strategy FM3.2: Coordinate Railroad and Traffic Controls to Minimize Conflicts

Some railroad crossing locations are adjacent to signalized arterial intersections and represent potential conflicts between modes. Signal interconnects coordinating rail and street traffic can reduce safety problems (stopping traffic before it reaches the rail crossing). Interactive traffic signs can provide information about waiting times and detour roadway traffic from closed rail crossings.

ACTION: Identify locations where signal interconnects or interactive signs would be helpful and feasible. Work with the railroads to implement such signs and signals.

Strategy FM4: Preserve Existing Rail Corridors and Freight Rail Capacity

The City's existing freight rail capacity is threatened by the loss of rail lines, the conversion of rail-accessible land to non-industrial uses, and passenger rail expansions.

The City needs to develop and evaluate strategies that preserve rail capacity for freight, including:

- Maintain existing rail access to manufacturing and industrial sites.

- Encourage the development of short-line railroads when economically feasible.

- Preserve existing rail corridors rather than allowing them to be abandoned.

- Encourage improvement of mainline tracks to maintain freight capacity while expanding regional passenger rail.

ACTION: Develop and implement strategies to preserve existing freight rail capacity.

Strategy FM5: Evaluate Potential Changes to Regulations of Rail Operations Across City Streets

Balancing rail, truck, and passenger movement may require changes in the City's Traffic Code regulating rail activities across city streets (e.g., speed limits and switching across arterials).

ACTION: Review and evaluate the existing Traffic Code regulation of rail activities across city streets. Recommend changes as appropriate.

Freight Access to Manufacturing and Industrial Areas

The transportation infrastructure is essential to Seattle's manufacturing and industrial areas. Direct connections to water, rail, and truck facilities are important to a vast array of existing and potential businesses in these areas.

Strategy FM6: Protect and Improve Freight Access to Manufacturing and Industrial Areas

In addition to the strategies outlined above, the City needs to develop strategies that address the following issues:

- Preserve existing manufacturing and industrial sites with good freight access facilities (rail, water, and truck).

- Improve truck routes to and from manufacturing and industrial areas.

- Facilitate efficient goods movement within the manufacturing and industrial areas.

- Where appropriate, allow loading and maneuvering of trucks on non-arterial access streets.

- Pave industrial access and non-arterial streets within manufacturing and industrial areas.

- Evaluate the performance of buffer zones between manufacturing and industrial areas and residential zones.

ACTION: Evaluate and implement strategies that support freight access to manufacturing and industrial areas.

Retail and Goods Delivery

The everyday delivery of goods and services purchased by the general public, businesses, and the government is critical to our economy's success. The City needs to evaluate its role in supporting and managing these activities, aiming both to increase their efficiency and to minimize their impacts.

Strategy FM7: Develop and Implement Goods Delivery Strategies

The City should explore strategies that address the following areas:

1) Facilitate the efficient delivery of goods to and from businesses:

- Allow after-hour truck access on certain streets.

- Balance the needs for loading zones with on-street parking needs.

- Ensure workable truck access and adequate loading berths in the design of new buildings.

- Retain alleys and ensure they work efficiently and as designed for goods delivery.

- Provide truck layover areas for when they are restricted from certain urban centers.

- Ensuring that load zones are reserved for freight loading and unloading, including possible restrictions on use by passenger vehicles with commercial plates.

2) Manage the impacts of goods delivery on residential areas and urban villages:

- Regulate the size of vehicles allowed on residential streets.

- Limit allowable time for engine idling in residential areas.

- Support use of smaller trucks within urban villages.

- Restrict hours of operation for large trucks in these areas.

ACTION: Develop and implement strategies that facilitate goods delivery and minimize its impacts on residential areas and urban villages.

Other Strategies

Strategy FM8: Review Marine and Air Access Policies

The City's role to support and manage marine and air access, including private facilities as well as the Port of Seattle and Boeing Field, should be evaluated. Bridge opening policies, for example, affect both marine and roadway goods movement. King County is preparing a new Master Plan for Boeing Field that has important implications for freight movement in the city and for surrounding residential areas.

ACTION: Review and evaluate the City's role in marine and air access. Develop and implement strategies as appropriate.

Strategy FM9: Develop Funding Partnerships to Promote Projects that Benefit Freight

The benefits of freight mobility improvements often cross jurisdictional boundaries, and may directly enhance port or railroad operations. Because funding is scarce, financial partnerships with the other beneficiaries will be needed.

ACTION: Work with other partners on the development of projects such as the FAST corridor project, and the SR-519 Intermodal Access Project.

Strategy FM10: Coordinate the City's Work on Freight Mobility Issues

The City is involved in a broad range of freight issues, ranging from grade separation issues around the Port of Seattle to regulating truck movements in residential neighborhoods. The City's role in these issues generates a wide range of requests for assistance, direction, and input.

ACTION: Designate a City Freight Mobility Coordinator to organize the City's work on freight mobility strategies and provide a designated point of contact for freight issues.

PARKING

The cost and availability of parking are among the most important factors affecting how and where people travel. Parking also shapes the physical environment. Surface parking lots reduce the density of development, increase the distances between buildings, and can limit the development of lively and interesting streetscapes that encourage social interaction.

But providing adequate parking is also important. Parking provides customer access essential to the economic vitality of businesses. Insufficient parking supplies can create spillover impacts into nearby areas.

The Puget Sound Regional Council examines off-street parking in Seattle's Central Business District, First Hill, and lower Queen Anne neighborhoods, as well as Downtown Bellevue. Their study is one of the best available to gauge the level of parking use in the more congested parts of Seattle. In the Seattle CBD in 1996, there were 53,235 parking spaces with an average occupancy rate for the CBD of 80 percent. Occupancy rates for First Hill and Queen Anne were 76 percent and 58 percent. Downtown Bellevue had about 31,100 parking spaces and had an average occupancy rate of 61 percent.

Seattle's urban village strategy calls for a gradual transition in some areas from low-density, auto-dependent neighborhood business districts to compact, mixed-use, urban villages and centers that are friendly to pedestrians, bicyclists, and transit riders. Success will require careful attention to parking: how much is provided, at what cost, where it is provided, how it is paid for, and how it is used. Some of Seattle's urban villages already demonstrate that it is possible to have a vibrant, successful retail center with limited parking and extensive transit service.

The TSP parking strategies focus on the transition from current conditions to achieving the Comprehensive Plan's goals. They emphasize the links among parking supply, the availability of transportation alternatives, and the distinctive characteristics of urban centers and villages.

Strategy P1: Review and Revise Parking Requirements

The Seattle Land Use Code identifies minimum requirements for the provision of off-street parking for more than 120 types of development. The City can modify the Code's parking requirements as a permit condition under the State Environmental Policy Act (SEPA). The Land Use Code and SEPA provisions have historically been designed to ensure that new development provides adequate parking. The goal is to prevent a new development from creating or exacerbating neighborhood parking problems and traffic-related nuisances. Except for Downtown Seattle, the Northgate area, and major institutions (hospitals and colleges with master plans), there are no limits on the maximum quantity of parking a developer can build, only a minimum requirement.

Strategy P1.1: Review Minimum Parking Requirements for Off-street Parking

At least some of Seattle's off-street parking requirements do not match the City's current transportation goals and needs. Off-street parking for some uses is underused—even during peak periods. Commercial developers often believe their success calls for more off-street parking than the City requires. Lenders push developers to demonstrate that they have adequate parking to support their proposed development.

The review of minimum parking requirements will begin with a study that examines how much parking is currently required, built, and used for specific land uses in Seattle. The study will evaluate parking demand and use for specific land uses and compare the parking actually supplied by new developments with Code requirements. The study will have three main purposes: 1) to review and possibly recommend changes to the minimum requirements to make sure they are appropriate given the City's goals of increasing transit ridership, bicycling, walking, and carpooling as well as promoting economic development; 2) to identify maximum parking standards as appropriate, for uses where parking is supplied beyond the Code requirements and peak utilization rates; and 3) to document factors and conditions that reduce parking demand. In evaluating standards and considering reductions, the study will examine the availability of off-site parking, quality of nearby transit service, bicycle and pedestrian facilities, changing levels of auto ownership and use, and population and employment densities.

ACTION 1: Conduct a parking study to review the City's minimum parking requirements and recommend changes as appropriate, as well as to identify maximum parking requirements where appropriate.

ACTION 2: Make adjustments to the Land Use Code and SEPA policies as necessary to implement the findings of the parking study.

Trade-offs: Any parking standard reflects a trade-off among transportation goals, parking spillover impacts, and a development's needs. While there is no "correct" standard, Seattle's requirements should be based on a better understanding of how much automobile traffic is generated by different types of land uses. Allowing more parking than is actually used makes it very difficult to achieve goals for increasing the use of transportation alternatives.

Strategy P1.2: Increase Flexibility to Respond to Specific Local Conditions

Developers should be able to respond to neighborhood conditions and opportunities offered by specific land uses. This strategy addresses two issues: granting a variance to build less parking than required and improving how shared parking works.

Flexible parking requirements. Under the current Land Use Code, a proposed development can be granted a variance to build less parking than the Code requires. Permitted exceptions allow a developer to voluntarily reduce the parking requirements by a specified percentage if the development project meets certain conditions. These exceptions should be reviewed and expanded as appropriate. The study outlined in Strategy P1.1 will document conditions that reduce parking demand, such as good transit service.

Possible reductions for commercial development: The following conditions may justify reductions in the parking requirements for some types of commercial development. Many of the exceptions listed here are already allowed. They are taken from the Land Use Code and may only apply to some kinds of land uses or zones; this list is not intended to be conclusive or exhaustive.

The specific conditions for any new reductions must be based on additional research and analysis.

- Existing or future frequent transit service: Allowed now up to 20 percent for nonresidential uses in commercial zones and Seattle Cascade Mixed Zone and 15 percent for nonresidential uses in industrial zones.

- Pedestrian-designated commercial zones and the Seattle Cascade Mixed Zone: Various reductions allowed.

- Support for alternative transportation such as certified carpool or vanpool programs, transit passes, bicycle parking, transportation management programs, and parking cash-out programs - Various reductions currently allowed for new or expanding administrative office and manufacturing land uses.

- Shared and cooperative parking.

- Landmark structures: Various reductions allowed.

- Expanding existing nonresidential uses in commercial zones and in the Cascade Mixed zone– Specific reductions allowed under specific conditions.

- Expanding existing buildings in multifamily and neighborhood commercial zones.

- Urban Center designation.

- Sound Transit station planning area.

- Documentation of similar development in same or similar area with lower parking demand.

- An adopted Neighborhood Plan may add additional conditions.

Possible reductions for multi-family residential development: There are more opportunities to reduce commercial parking requirements than residential requirements, because most households own cars that they need to store even if they do not use them frequently. The previous conditions apply for the most part to non-residential land uses and zones.

The following conditions may justify reductions in the parking requirements for some residential developments. This list is not intended to be conclusive or exhaustive. The specific conditions for any new reductions must be based on additional research and analysis.

- Urban Center designation.

- Low-income housing.

- Sound Transit station area.

- Car sharing program (see Strategy DM11).

- Documentation of similar development in same or similar area with lower parking demand.

- An adopted Neighborhood Plan may add additional criteria.

Possible maximum parking requirements: If maximum parking requirements are established for a land use, then a proposed development could also be allowed to increase the parking supplied above the maximum standard. The following conditions might justify increases beyond the maximum parking requirement. This list is not intended to be conclusive or exhaustive.

The specific conditions for any new increases must be based on additional research and analysis.

- Excessive parking and traffic impacts on residential streets

- Infrequent transit service (greater than 30-minute headways) or service beyond one half-mile

- High nighttime employment

- Parking supply is transitional and built to be converted to a non-parking use at a later date

Shared Parking. Second, there is a concern that the City's current provisions for shared parking are not appropriate for some land uses, especially for grocery stores and "big-box" retail. Shared parking is an contractual arrangement that allows several land uses to share the same parking because their peak parking demand periods occur at different times of day or week. An example is when a religious institution shares parking with adjacent businesses. Because grocery stores are open well into the evening, when they share parking with nighttime uses such as movie theaters, parking spillover into surrounding neighborhoods can be a problem. The parking study outlined in Strategy P1.1 will give special attention to peak parking demand periods for grocery stores and "big-box" retail and develop some recommendations to improve how shared parking works in neighborhoods.

ACTION 1: Review and expand current exceptions to the minimum parking requirements and any maximum requirements that may be created by Strategy P1.1 above. Establish or adjust permissible percentage reductions from those standards based on research and analysis of appropriate parking demand factors.

ACTION 2: Examine shared parking requirements for land uses where there may be conflicts between nighttime and daytime use, with special attention to grocery stores and "big-box" retail. Revise if appropriate.

Strategy P1.3: Explore Allowing Off-site Parking for Multi-family Residential Development

Under the current Land Use Code, parking for nonresidential development can be provided either on the development site or within 800 feet of the building. This requirement allows developers to take advantage of other existing but underused parking within the area. Parking for residential development cannot be provided off-site, however, except in a high-rise zone as a conditional use. This prevents residential developers from taking advantage of existing but underused residential and commercial parking, and can increase the cost of new housing.

Currently, the Department of Construction and Land Use is evaluating the benefits and impacts of allowing off-site parking in specified circumstances for multi-family development. This fall, the City Council will be considering this proposal.

ACTION: Evaluate the benefits and impacts of changing the Land Use Code for residential developments to allow parking to be provided off-site. Amend the Land Use Code as appropriate.

Strategy P2: Provide Parking Management Assistance to Neighborhoods

The TSP parking strategies provide a set of tools for neighborhoods to help manage parking (e.g., modified parking standards, centralized public garages, curb space priority). Neighborhoods expected to accommodate more growth (urban villages and centers as well as manufacturing and industrial centers) will need to be creative in using these strategies to manage parking. They face not only additional residents and employees, but also loss of parking lots as land is developed for other uses. As these neighborhoods develop and implement neighborhood plans, the City should provide assistance in creating parking management plans that respond to a neighborhood's special circumstances.

ACTION: Provide assistance to neighborhoods to help them develop parking management plans.

Strategy P3: Support Transition to Centralized Parking

Centralized parking garages reduce the need for each building to have its own parking supply and also reduce the overall need for parking within a neighborhood. It is common downtown, where most garages are open to the public, and is also found in some of the busier neighborhood business districts. Principal use parking garages can help provide both short-term parking and long-term residential vehicle storage.

This strategy is intended to facilitate the transition from auto-oriented, low-density development to compact, higher-density land uses. The City will explore ways to help neighborhoods develop centralized parking facilities, which are much more expensive than surface parking lots. The City does not intend to fund the construction of these parking garages.

Where appropriate, centralized parking garages can offer the following benefits:

- Promote infill development and reduce the land allocated to parking: structured parking supports the redevelopment of surface lots into commercial or residential uses and keeps large, parking-intensive projects from precluding higher density development.

- Encourage pedestrian activity: eliminating large surface parking lots between buildings makes areas more pedestrian-friendly.

- Reduce free parking for work trips: employers who have to pay for parking in centralized garages are less likely to offer free parking to employees.

- Maximize the efficient use of the total available parking in the neighborhood: centralized parking encourages new developments to build fewer on-site parking areas. As parking needs are reduced in the future, the spaces become available for any new development projects.

- Provide long-term car storage for residents.

Developing principal use parking garages may require amendments to the City's Land Use Code and SEPA ordinances, to reflect that some or all of a development's parking requirement is met in these central parking facilities rather than on-site. It is important to ensure that new central parking facilities reduce rather than supplement the provision of on-site accessory parking.

When considering these centralized parking garages, neighborhoods should recognize that charging for customer short-term parking in a garage may result in parking spillover onto neighborhood streets where parking is often cheaper or free.

ACTION: Explore and evaluate options for working with neighborhoods to support the development of centralized parking facilities.

Strategy P4: Make Parking More Pedestrian-friendly

The location and design of parking has a major impact on the pedestrian environment. Siting parking in front of buildings disconnects the public street and sidewalk system from building entrances, creating an unattractive and potentially unsafe building access for pedestrians. Too many entrances and exits divide up the sidewalk and can create unsafe conditions for those on the sidewalk as well as for the street's traffic flow. Large open lots make for a discouraging and unpleasant streetscape.

Blank walls of parking garages make streets particularly pedestrian-unfriendly. Ground-floor commercial uses help to ensure the continuity of street activity, increase the opportunities for economic and social interaction, and reinforce the pedestrian orientation of neighborhood business districts.

The Land Use Code contains several provisions that control the location and design of surface and structured parking, depending on the zoning. Access requirements control the number of entrances and exits into the parking lot or garage. Design requirements determine how well parking must be screened from view with landscaping and other treatments. Location requirements determine

whether the parking must be located behind or beside a building; Commercial C1 and C2 zones do not contain restrictions on parking location and access. Current City policies require retail or other commercial development along some portion of a garage's ground floor in pedestrian-designated zones.

In the City's design review process, new developments may receive departures from the Land Use Code for the design, access, and location of parking. The amount of parking required is not negotiable under design review.

There may be opportunities to increase the pedestrian-friendliness of existing requirements. One option is to provide for safe pathways through parking lots.

The City can also extend the ground floor commercial use requirement to include garages along a Key Pedestrian Street (see Strategy W4.2), where economically feasible. The requirement would provide for other streetscape improvements if commercial uses are not economically viable, and would be implemented only after Key Pedestrian streets are designated.

ACTION 1: Examine existing parking location, access, and design standards for opportunities to increase pedestrian-friendliness. Respond to related neighborhood plan recommendations. Examine potential for design guidelines for surface parking lots that protect pedestrians while walking through the parking lots. Implement changes as appropriate.

ACTION 2: Modify the Land Use Code to require first floor retail or commercial uses in parking garages along Key Pedestrian streets, where economically feasible. Where infeasible, require public art, street vendor sites, or intensive landscaping as an alternative to blank walls.

Strategy P5: Allow 72-hour On-street Parking

Current policy limits vehicles to a maximum of 24-hour parking in any one on-street parking space. This policy allows the City to clear the street of parked cars when necessary and expedites handling of abandoned vehicles. Requiring that people move their cars every day, however, is a burden for people who use their cars infrequently. If the City wants to discourage driving, residents need to be able to leave their cars at home and not face a parking citation.

The City should change the Traffic Code to permit parking for up to 72 hours, with appropriate exceptions to include:

- The street has to be cleared within 24 hours for street work or special events, with appropriate notice based on current procedures.

- Seattle Police Department retains the ability to require 24-hour notification for removal of abandoned vehicles, inoperable vehicles, and vehicles with expired licenses.

ACTION: Change the 24-hour parking rule to 72 hours for on-street parking, with exceptions as appropriate.

Strategy P6: Establish and Enforce Curb Space Priorities in Commercial and Residential Zones

Judging by the conflicts over its use, curb space is one of the most valuable assets in the city. Because much of Seattle was developed before on-site parking requirements, on-street parking must meet a large proportion of the parking needs of both businesses and residents in many Seattle neighborhoods. The TSP reaffirms existing City policy for curb space priorities.

Except when in use as peak period travel lanes, general priorities for curb space in commercial zones are: first, bus zones; second, loading zones; and third, short-term parking.

In residential areas, the first two priorities are the same, bus zones and loading zones, but the third priority is long-term rather than short-term parking.

In some situations, the City may need to manage on-street parking more aggressively to ensure that it is used for its intended purpose. Special event parking near the Kingdome, for example, can cost as much as a parking ticket. Consequently, event parkers often use parking spaces needed for short-term, business customers. The fine for parking violations must be high enough to discourage illegal parking.

ACTION 1: Review, update as needed, and document policies governing curb space priorities.

ACTION 2: Review parking fines to ensure that they provide an adequate deterrent to illegal parking. Raise rates if necessary to preserve intended purpose of on-street parking.

Strategy P7: Develop Technology-based Off-street Parking Systems

Measures that make off-street parking more attractive to drivers can reduce the number of cars driving around looking for parking and the impact of spillover parking onto residential streets. Such programs can also encourage employees to park in off-street lots instead of along nearby streets.

Drivers prefer on-street parking over off-street parking for a variety of reasons including: convenience, perceptions of personal safety, cost, and flexibility. Off-street parking is often available in a neighborhood, but may be tucked away or several blocks from the retail core.

People's resistance to using off-street parking can be reduced by developing changeable and attractively designed signs that show where parking is available and guide drivers to the nearest open spaces. These signs are most appropriate in the downtown area where there are dense parking areas and higher demand.

There are a number of transportation technology programs now underway and contemplated in the City. As appropriate, these programs should include driver information programs supporting more efficient off-street parking.

ACTION: Develop new technology-based programs to facilitate people finding available off-street parking.

Strategy P8: Establish Parking Management Strategies Roundtable

Parking management is critical to achieving the vision outlined in the Comprehensive Plan. It is also critical to maintaining the economic viability of businesses and reducing spillover impacts in neighborhoods. The trade-offs involved in parking management are controversial and important.

A parking strategies roundtable could help the City strengthen its parking management policies. The roundtable would include various City agencies as well as business, resident, and transportation interests. It would explore options and make recommendations about parking management innovations and strategies for constraining parking supply while supporting business and neighborhood goals. This effort would both educate participants and generate policy recommendations.

ACTION: Establish the parking roundtable that works with interested business, resident, and other transportation-related organizations to explore innovative parking management programs.

FUNDING

The Budget Problem

The Transportation Strategic Plan highlights a tremendous set of transportation challenges. These include repairing a large backlog of maintenance for streets and bridges; making transit, bicycling, and walking dramatically more attractive; protecting and improving neighborhood livability; and maintaining and improving the movement of freight and goods. We cannot afford to ignore these needs. A healthy, efficient transportation system is absolutely essential to achieving our vision for the future of Seattle.

The City of Seattle has a major transportation funding problem. The City's current transportation revenues are $59 million, consisting of base local revenues of about $40 million, and approximately $15 million from grants and $4 million from low-interest loans. Achieving appropriate levels of maintenance (preventing additional deterioration and gradually retiring the maintenance backlog) is estimated to require an additional $21 million per year. Any investments in much-needed mobility improvements would require still more funding.

Several factors have eroded Seattle's transportation funding over the years. We lost $10 million per year when the State Supreme Court declared the City's Residential Street Utility Fee unconstitutional. Inflation reduces the value of the City's gas tax and license fees by a little more than $360,000 per year. The City loses another $500,000 per year because the State has not updated the gas tax distribution formula to account for the creation of new cities and towns -- the cumulative impact is now over $2 million annually. In short, we have lost more than one-fourth of the transportation budget since 1993.

The City Council authorized one-time fixes for 1996 ($6.8 million), 1997 ($14 million), and 1998 ($8.3 million) to help make up for lost revenues. These funds (from bonds and other sources) are not sustainable. Efforts to secure help from the State Legislature (in the form of either a higher gas tax or new local option taxes) have not been successful.

Currently, the City does not have the funds to provide and maintain a healthy, efficient transportation system. We need to find new revenue sources; we cannot afford to continue

neglecting this problem. The city's livability and vitality are at stake. This section briefly examines the current revenues and then recommends options for raising additional funding.

Current Funding Sources

The City's transportation funding is generated from four sources: tax revenues, grants, partnerships, and borrowing.

Tax and Fee Revenues. The City's transportation tax and fee revenues include the gas tax, vehicle license fees, general fund sources, and cumulative reserve fund sources.

- Gas tax revenues will generate about $12.2 million in 1998.

- Vehicle license fees will generate about $4.6 million in 1998.

- General Fund revenues (sales tax, property tax, B&O tax, utility taxes, street use permit fees, parking meter fees, and many smaller taxes and fees) will contribute about $15.2 million to the 1998 Transportation budget, plus another $6.6 million of one-time help.

- Cumulative Reserve Fund revenues (the real estate excise tax and other sources) will contribute $2.0 million to the 1998 transportation budget, plus another $1.7 million of one-time help.

Grants. The City has usually been able to secure about $15 million per year in federal and state grants for major capital projects. To secure these grants, the City must allocate approximately $5 million to use as local match.

Partnerships. The City is working with both public and private partners to fund projects, including the State, King County, the Port of Seattle, and private businesses. The City's joint ventures include SR-519, Harbor Avenue SW, and an access ramp across railroad tracks at West Galer Street. The City has also allocated seed money to foster partnerships with individual citizens and businesses to fund small improvements like sidewalk repairs.

Borrowing. Debt financing is not a source of additional revenue. Loans and bonds must be paid back with interest (i.e., they reduce future revenues). However, the benefits of debt financing are that: one, it offers a tool for financing major capital projects that cannot be financed in a single budget cycle; second, it spreads the cost of a facility over its useful life; and third, it helps bridge shortfalls until new revenues are available.

Loans have historically played a relatively minor role in the City's transportation financing. The City currently borrows about $4 million per year in low-interest loans (one to three percent) from the State's Public Works Trust Fund. These are 20-year loans, and the City is currently carrying $20.7 million in such debt with about $1.8 million in annual debt service. The City Council also issued $9.5 million in ten-year councilmanic bonds in 1997 as part of its one-time fix to a severe funding shortage.

Leveraging: The City is working with public and private utilities to stretch its transportation dollars in the face of funding shortfalls. Strategies include incorporating transportation projects into utility capital improvement and major maintenance projects (Strategy A1), as well as

exploring alternative ways to finance or reduce the cost of utility improvements associated with transportation projects.

Restrictions. One aspect of the City's transportation funding problems is the need for flexible revenues. Several funding sources are restricted to capital projects or purposes and in many cases these capital restricted funds can not be used for major maintenance work. The City needs to ensure that it has enough unrestricted funds to pay for its non-capital work: operations, maintenance, and debt service. This has been a problem in the past.

Efficiencies

Savings generated by efficiency improvements—getting more for our existing spending—are the City's first target for additional revenues. In fact, the City has implemented a number of recent efficiency improvements that are having a substantial impact. One example: replacing the incandescent red light bulbs in traffic signals with new LED bulbs, is expected to save over $100,000 per year.

But efficiency improvements are not enough to cover Seattle's transportation funding shortfall. The City also needs new revenues.

New Revenue Options

The City has considered a wide range of potential revenue sources and weighed a number of factors. The TSP recommends that the City pursue several of these options. No one source offers a lasting long-term solution to the funding problems; pursuing several alternatives also provides insurance against the failure of any one option.

Combined with existing revenues, the recommended options are aimed at generating enough revenues to achieve appropriate levels of maintenance and provide a moderate level of investment in mobility improvements.

The City's options for financing these investments are fairly constrained. The City's revenue sources must be approved by the State Legislature. The recommended options include both actions the City is currently authorized to take and actions that require changes in state law.

The recommended options include:

- Increasing General Fund support for transportation.

- Increasing gas tax revenues from the State.

- Working with King County to implement a local option gas tax.

- Developing a new local option authority to tax commuter parking.

The Plan also recommends using property tax options as a long-term backup if none of the other sources come through, and continuing to explore several other opportunities: Local Improvement Districts and pricing strategies. A more detailed explanation of the options follows:

Strategy F1: Increase General Fund Support

The City is currently allocating $17.3 million of the General Fund to transportation (including Cumulative Reserve Fund contributions), supplemented by $8.3 million of one time assistance for 1998. This base figure includes a permanent $5 million increase in General Fund allocation to transportation which was implemented in 1998. The Mayor and City Council have also agreed that the funds now being used to pay Street Utility refunds ($4.8 million per year) should be directed to transportation in the year 2000, when the debts are repaid. The Mayor has proposed additional one-time funding of $7.8 million in the 1999 budget.

The City's Citizen's Transportation Advisory Committee (CTAC) recommended that Seattle invest at least 4.7 percent of its General Fund in transportation. The City Council endorsed the 4.7 percent goal, and they established an additional goal that by the year 2003, at least 5.0 percent of the General Fund will be devoted to transportation. The 4.7 percent goal totals $26 million in the year 2000; The amount in the Mayor's proposed budget for the year 2000 is $26.8 million.

ACTION: Seek substantial additional revenues over and above the existing General Fund sources for the years of 2000 and beyond to fund transportation.

Strategy F2: Increase State Gas Tax Revenues

The state gas tax is 23¢ per gallon. Of that, 2.5¢ is dedicated to cities and towns on the basis of population. Seattle will receive about $12.2 million in gas tax revenues in 1998.

There are several ways to increase those revenues, all of which require the approval of the State Legislature:

1. Update the gas tax allocation formula: On average, Seattle has lost about $2.3 million per year over the last five years, because the State's distribution formula does not account for the creation of new cities and towns (the same city share is being divided among more and more cities). This loss is increasing by about $500,000 per year. The distribution of any new revenues should be based on an updated formula. The amount of additional revenues would depend on the size of the gas tax increase.

2. Index the gas tax to inflation: Indexing the state gas tax so that it increases automatically with the rate of inflation would raise $360,000 per year for Seattle.

3. Increase the gas tax and maintain at least the current City share of any new revenues. Seattle receives $5 million for each one-cent increase in the gas tax that is dedicated to cities under current formulas.

ACTION: Continue to lobby the State Legislature to approve: 1. an updated allocation formula for any new gas tax revenues, 2. indexing, and 3. a gas tax increase that includes money for cities.

Strategy F3: Pursue County Implementation of Local Option Gas Tax

The State currently authorizes counties to levy a local option gas tax, and the tax must be approved by voters. The King County Council must place the measure on the ballot. The tax is levied at 10 percent of the state rate, or 2.3¢ per gallon. It would raise about $6 million per year for Seattle.

This tax is based on direct use of the transportation system. It will cover part of the City's funding needs, but its value will decline with inflation. The tax could generate additional revenues if the State Legislature approved a higher rate. Voters have rejected local option gas tax proposals in Snohomish and Spokane counties.

ACTION: Work with King County to implement the local option gas tax. Lobby the State Legislature to increase the local option authority to 20 percent of the state rate.

Strategy F4: Develop and Analyze a Commuter Parking Tax

Potential State or County actions are helpful but generate limited revenues for Seattle (i.e., $5-6 million annually). The City cannot fund its maintenance and improvement objectives without a new local taxing authority. The Plan recommends a Commuter Parking Tax.

The State currently authorizes local jurisdictions to tax: one, the gross proceeds or number of stalls in a commercial parking facility; or two, the act of parking a car in a commercial parking facility. The tax rate can vary with zoning districts, congestion levels, population densities, type or use of vehicle, parking duration, or other reasonable factors. The authorized option allows the City to target the tax to long-term and peak-period parking (i.e., commuter parking), as well as a general tax on all parking space users. A five-percent tax is estimated to raise between $6 million and $15 million annually, depending on how the tax is structured and applied.

The TSP recommends focusing on the long-term (commuter) parking options.

As currently authorized, the tax has some important limitations. The state law could be clarified with regards to adding some important classes of parking and eliminating some administrative challenges, which would make a commuter parking tax a more attractive funding source. The most attractive changes would broaden the tax to clearly include other types of commuter parking. Even without amendments, however, the commuter-oriented tax options should be carefully considered.

There are several reasons a commuter parking tax is attractive:

- The tax allows the City to tax drivers that live outside Seattle, as well as Seattle residents. Non-residents coming into the city are responsible for a large share of Seattle's traffic.

- The tax is directly connected to use of the transportation system.

- A relatively small tax (a tax that would not significantly raise the cost of parking in Seattle as compared to other jurisdictions) can still raise substantial revenues.

- A tax targeted to commuter parking would avoid any potential retail impacts.

ACTION: Develop and analyze an implementation proposal for a commuter parking tax under existing law and with amendments. Lobby the State Legislature for amendments that improve the existing local option authority.

Strategy F5: Consider Property Tax Revenues

The City would prefer not to fund transportation needs with additional property tax increases, as long as other funding options based on use of the transportation system are available (e.g., gas tax,

commuter parking tax). The following options are presented as backups if other strategies are unsuccessful.

Strategy F5.1: Consider Voter-approved General Obligation Bonds

Voter approved bonds are financed by property tax increases. They require 60 percent voter approval on 40 percent turnout and are limited to capital projects. Voters approve a fixed amount over a set duration—they are not a lasting source of revenue. Bond revenues are based on property values rather than direct use of the transportation system. These limitations make them a less than ideal alternative.

The City placed a $90-million, six-year transportation bond measure on the Fall, 1997 ballot. Although the bond measure received 56.5 percent approval, 60 percent was required to pass.

The City may propose a bond measure to help finance the implementation of neighborhood plans. A neighborhood bond measure should include funding for some of the many transportation-related requests in neighborhood plans.

ACTION 1: Consider future bond measure as a last resort if other sources of transportation funding are inadequate.

ACTION 2: Include funding for transportation requests from neighborhood plans in any proposed neighborhood bond.

Strategy F5.2: Consider a Transportation Levy Authority

With Legislative approval, certain unused portions of the regular property tax levy that Seattle is currently unable to access could be used for transportation purposes. This would raise up to $21 million per year at current assessed values. The Legislature would set the conditions required for approval. This tax is not based on direct use of the transportation system but would provide a substantial, stable revenue increase.

This is not a preferred revenue option for the City but would be considered if other options are unsuccessful.

ACTION: Consider lobbying the State Legislature to authorize the use of certain portions of the regular property tax levy for transportation purposes, if other transportation funding strategies are unsuccessful.

Strategy F6: Increase Use of Localized Revenue Sources for Localized Improvements

There are a number ways to generate localized funding for specific projects. Local Improvement Districts (LIDs) are one option. They generate special property taxes approved by property owners within the designated district. Funds are administered by the City. LIDs do have some important restrictions. They are restricted to capital projects, and the tax cannot exceed the amount by which improvements increase property values. Because most projects cost more than the amount that they increase property values, LIDs also require City funds. In short, LIDs usually offer an opportunity to leverage funds rather than fully finance projects. The City would also have to fund efforts to organize LIDs.

Another option is to require developers to install improvements (e.g., sidewalks) adjacent to their developments. This is a requirement that currently applies only to developments of a certain size. The City could lower the size threshold at which improvements are required; this would increase the cost of development.

ACTION 1: Continue to explore and evaluate alternative funding sources for neighborhood transportation projects.

ACTION 2: Identify the best opportunities to use LID financing. Assess feasibility and likelihood for approval. Organize and promote LIDs where approval is likely. Encourage and support self-initiated LIDs. Coordinate with neighborhood planning efforts.

Strategy F7: Support Efforts to Evaluate and Develop Transportation Pricing Strategies

A number of transportation pricing strategies could generate significant transportation revenues (e.g., roadway pricing, vehicle-miles-traveled taxes, and parking taxes). These strategies can also have a substantial impact on people's travel decisions, thereby reducing congestion and pollution (see also Strategy DM13).

The public needs more opportunities to discuss and learn about such efforts. The Puget Sound Regional Council is currently evaluating the structure of our region's transportation funding and exploring funding strategies directly related to use of the transportation system. Seattle should support and participate in those efforts.

The City of Seattle cannot "go it alone" on transportation pricing, since we do not have the authority to impose many transportation pricing mechanisms. The City must work with other jurisdictions and agencies in the region and at the state and national levels to support transportation finance reform that ties funding to use of the transportation system. Linking how people pay for transportation to how much they use it will both influence transportation demand and raise revenues to maintain and operate the system.

ACTION: Participate in regional efforts to develop options and educate the public about transportation pricing strategies. Support state and national policy, legislation, and tax reforms that aid transportation pricing strategies.

PRIORITIES

This Plan outlines a tremendous set of transportation needs and challenges. With sharply constrained resources, the question of how to *prioritize* spending is absolutely critical. How do we decide what gets funded and what does not?

In simple terms, four basic goals currently guide the City's transportation spending:

- Safety: prevent accidents, protect human health.

- Efficiency: spend as intelligently as possible, maximize the benefits of investments.

- Mobility: move people and goods.

- Balance: address a full range of transportation needs, maintain *and* improve the system.

These goals are the basis for SEATRAN's mission statement: *To maintain and improve the transportation system for the safe and efficient movement of people and goods.*

In keeping with these goals, the City's highest transportation priority is its Operations and Maintenance programs. These programs protect our investment in the existing transportation infrastructure—valued at an estimated $5 billion. Taking care of this system is the best investment we can make in safety, efficiency, mobility, and balance.

Operations and maintenance needs could absorb all of the City's transportation funding. The City also must improve the transportation system. We need to address safety and mobility deficiencies, capitalize on opportunities to leverage funding, increase efficiency, promote economic development, and improve the livability of neighborhoods. So while operations and maintenance is the first priority, the City will also invest in improvements that support transit, bicycling, walking, and freight mobility, as well as those that protect and enhance neighborhoods.

Making Choices

The City needs to prioritize its spending both within and among programs. How much should be invested in operations and maintenance and how much in transit, bicycling, walking, or freight mobility? What are the highest priority bridge improvements?

Prioritizing projects within programs is a common practice. It is not exceedingly difficult to develop criteria that compare one bicycle improvement to another, for example. Prioritizing projects across programs, however, is more difficult. There is no clear way to evaluate the importance of truck access improvements against bicycle trails. As a result, the TSP approaches prioritization within programs differently than across programs. Within programs, the TSP offers criteria for ranking projects. Across programs, the TSP offers guidelines to steer investment decisions.

Guidelines

The City should fund a basic minimum of Operations and Maintenance before investing in any system improvements. The TSP defines this minimum as work that is 1) legally required, 2) required to maintain a functional system that provides reasonable access to all areas of the city, or 3) needed to avoid new, severe public safety and liability problems.

For funds beyond the core program, most of the money should continue to go into Operations and Maintenance. The remainder should be distributed among the other TSP program areas. Specific allocations to these programs need to be determined during the budget process, based on needs and opportunities. In addition to a commitment to continue making some improvements in each basic program area, allocations should reflect:

- Comparison of the prioritized spending opportunities within basic program areas.

- Opportunities to leverage funding for priority projects.

- Public feedback about transportation priorities.

The City will rank investments in within program areas based on established criteria (outlined below). The City will pay particular attention to specific discrete capital improvement projects that involve substantial costs.

ACTION 1: Use criteria outlined in this chapter to rank investments in for transportation program areas.

ACTION 2: Develop a more refined and rigorous process, based on the criteria outlined in this section, for evaluating and ranking proposed discrete capital improvement projects.

ACTION 3**:** Review and evaluate the City's prioritization of transportation projects using these criteria to ensure that the City's highest priority activities are being funded. Update and modify the criteria and/or refine the prioritization process as necessary.

Criteria

These criteria are designed to be applied to a full range of activities within each of the program areas—including both ongoing activities and discrete capital projects. The following criteria are generally intended to be qualitative rather than quantitative. Given that SEATRAN evaluates and prioritizes several hundred activities, performing a detailed, quantitative analysis of all potential investments would be tremendously expensive. Additionally, the costs, benefits, or impacts data are often unavailable or un-quantifiable.

Criteria Common to All Areas: The following criteria apply to all the program areas. They are listed once here to avoid repetition within each category.

- What are the activity's safety benefits? What is the level of risk or accidents that it addresses?

- How much does the activity improve mobility? (Criteria found in the different program areas may include specific definitions of mobility benefits.)

- How many people will directly benefit from the activity?

- Does the activity leverage additional funding (grants, partnerships)?

- Does the activity support the accomplishment of multiple goals/strategies (safety and freight mobility or transit and walking, for example)?

- How much does the activity cost? What are the trade-offs compared with doing a greater number of lower cost activities?

- What are the activity's environmental impacts?

- How much public support or demand is there for the activity?

- Does the activity support Comprehensive Plan goals? Does it support an urban village?

- Is the activity identified in a Council-approved Neighborhood Plan?

Operations and Maintenance: The following criteria apply to operations, maintenance, and rehabilitation projects identified in the Operations and Maintenance chapter: How much will the activity reduce City liability? What are the activity's benefits for non single-occupant-vehicle modes? How much money will the activity save the City in the future? What are the activity's environmental benefits? What is the size and urgency of the problem addressed by the activity?

Structures and paving make up about 90 percent of the need of transportation system preservation and rehabilitation. Along with replacement of traffic control devices and streetlights, they are prioritized within their categories before evaluation against the above criteria. The criteria used specifically for these three areas are:

Structures: Volume of traffic affected; availability of alternate routes; impacts on emergency services; immediate probable impacts of failure; likelihood of failure; cost of the work.

Paving: Pavement condition; traffic volume (or arterial classification); transit volume; truck volume (or Major Truck Street classification and proximity to a manufacturing/industrial center); savings/efficiency opportunities (combining projects, other); geographic equity (serving different areas of the city); utility coordination (coordinating with utility improvements).

Traffic Control Devices and Streetlights: Number and type of users (freight, transit, commuters, neighborhoods) directly affected; likelihood of failure if not replaced or rehabilitated; cost-effectiveness of action before failure occurs; ability to leverage outside funds.

Walking Improvements: The following criteria apply to pedestrian projects identified through the Walking section of the Moving People chapter.

Crossing and Sidewalk Improvements: Does it serve a school walking zone, where elementary schools are the highest priority (within 1,000 feet of a school)? Does it serve other special needs populations (near senior and other selected social services)? Does it improve access to a park, community center, or library? Does it fill in missing links in the pedestrian network? Does it improve access to transit? What are the estimated pedestrian volumes? Is it in an urban village or center? Does it help the City meet Americans with Disabilities Act (ADA) mandates?

Because of the Americans with Disabilities Act requirements, the criteria for the *Curb Ramp Installation Program* are slightly different. The criteria are the following: What is the public demand for the project? Is it within a neighborhood business area? Does it improve access to transit? Does it help the City meet ADA mandates?

Sidewalk Repair Program: What is the current sidewalk condition? Does the sidewalk serve special needs populations (near senior and other selected social services)? What are the estimated pedestrian volumes? What is the claims history for the area in question? Is it in an urban village or center?

Bicycling Improvements: The following criteria apply to bicycle projects identified in the Bicycling section of the Moving People chapter.

Urban Trails System: What is the estimated bicycle usage? Does it fill missing links in the bicycle network? Does it remove a barrier to bicycling? Does it contribute to an equitable distribution of

transportation facilities around the city? Is there a time-limited opportunity (abandoned rail corridors and utility rights-of-way)?

Bike Spot Safety: What are the safety benefits? How many accidents have been reported? What is the estimated bicycle usage? Does this fill missing links in a bicycle route? Is this meeting citizen requests? Does this fit with neighborhood priorities?

Bicycle Racks: Have businesses requested the rack placement? Is there space for a bicycle rack?

Transit Improvements: The following criteria apply to transit projects identified in the Transit section of the Moving People chapter.

Transit Service: See the Service Priorities outlined in Strategy T4: Establish and Implement Transit Service Priorities.

Capital Investments: How much time and money will the project save for buses? How many riders will benefit? Is the project requested/supported by a transit agency? What are the impacts on other street users?

Protecting and Enhancing Neighborhoods: The following criteria apply to projects identified in the Protecting and Enhancing Neighborhoods chapter.

Neighborhood Traffic Control Program: Reported accident rate; traffic speeds; traffic volume; level of petition support from affected residents.

Restricted (Residential) Parking Zone Program: Percentage utilization of on-street parking; percentage of parked vehicles that are commuters; level of petition support from residents.

Freight Mobility*:* The following criteria apply to projects identified in the Freight chapter: How many freight trips will benefit? How much will the activity improve safety for trucks, trains, and other modes? How much will the activity reduce freight travel times? How much will it improve accessibility and mobility for freight movement, particularly along Major Truck Streets? Does it facilitate access to a manufacturing or industrial area as well as streets identified by industrial users and trucking operators? How much does it support intermodal access?

EVALUATION

The City should evaluate periodically the progress of implementing the TSP and meeting the goals of the Comprehensive Plan. . The TSP establishes an action plan to implement the Transportation Element of the Comprehensive Plan. Therefore, measuring the City's progress in meeting Comprehensive Plan goals will be a key component of the evaluation. In addition, individual strategies should be evaluated for their effectiveness in meeting our transportation and other City goals.

Strategy E1: Monitor TSP Progress in Meeting the Transportation Element Goals of the Comprehensive Plan

A set of indicators has been identified to monitor the progress of the Comprehensive Plan to determine whether actual outcomes match the intended outcomes. Three are related to the Transportation Element: travel mode for commute trips, transit ridership, and miles of alternative travel facilities. Additional indicators are needed to monitor progress in meeting freight mobility and other goals.

Criteria were established for the Comprehensive Plan indicators. To the extent possible, new indicators should meet these criteria:

- Use reliable information.

- Use information that is already collected.

- Ensure easily understood relationship to Comprehensive Plan goals.

The number of indicators should be limited to keep the monitoring process manageable while providing useful information.

ACTION: Establish indicators to measure progress in meeting freight mobility and other goals not covered by existing indicators used to monitor and evaluate the Comprehensive Plan.

Strategy E2: Evaluate Transportation Strategies as They are Implemented to Monitor Their Effectiveness and Provide Feedback for Future Projects

In most cases, a combination of strategies will result in a desired outcome. For example, improvements in transit travel time and reliability combined with parking strategies will increase transit ridership. Yet, while transit ridership is the goal, the City is interested in how effective parking strategies are versus transit travel time and reliability strategies. As the strategies in this plan are implemented, the City should evaluate them to determine if they are having the desired effect, if they can be used elsewhere, and if modifications should be made for future applications.

The level and type of evaluation will vary for different strategies. The cost of some strategies will warrant the evaluation to assure that funds are invested effectively. Other less expensive strategies may not warrant a detailed evaluation to justify cost, but we are interested in knowing how effective those strategies are as well.

In addition, the effects of some strategies will be easier to measure than others. The City can measure transit travel times before and after bus bulbs or other speed and reliability improvements are implemented; transit ridership along affected corridors can be measured. On the other hand, the effects of public education strategies (see Strategy A4 and Strategy DM15) may not always be so obvious. The success of the education campaigns in and of themselves may be difficult to pinpoint. Finally, some strategies address more than one goal. These strategies may be given a higher priority for evaluation.

ACTION: Evaluate strategies as they are implemented.

Strategy E3: Track TSP Implementation

Periodic reporting of progress in implementing the TSP provides a way for the public to verify that the plan is being implemented and encourages the City to continue. Without a tracking system, plans can be left on the shelf and eventually forgotten.

A progress report should include a summary of the strategies that have been implemented, results of evaluations, and the performance indicators. It may also include recommendations for changes to TSP or specific strategies.

ACTION: Track implementation of the transportation strategies and prepare an annual report to be submitted to the City Council. Adjust the TSP as necessary.

Appendix A

This appendix includes the cost estimates and responsibilities for the different strategies. They need to be considered in the context of the following points:

Cost estimates are included for illustrative purposes and *not* for budgeting purposes. The estimates are rough and use different approaches. Some strategies provide the cost of an entire program or set of programs, while others simply estimate the cost of doing an action once (e.g., improving one crosswalk) rather than implementing a strategy systematically (e.g., improving all deficient crosswalks). Administration and planning costs are generally very rough. They are not based on developed scopes of work. There is also overlap; administration and planning costs for some strategies that the City is already working on may appear in the overall Operations cost estimates. It would be misleading to add the costs of all the different strategies together.

The costs are based on the actions listed for each strategy. Most of the actions are incremental and can be implemented at higher or lower levels, depending on funding.

Many strategies require additional funds or reallocations from existing efforts. But many costs are, or can be, covered under existing budgets. They are already part of, or can be worked into, existing work plans.

Start Date: Actions listed as *1998* or *1999* are either already underway or will be initiated in the year indicated. Actions listed as *Post-1999* will start after 1999. Actions listed as *New $* cannot be implemented without additional resources or staff. Implementing actions assigned *Major $$* require a major revenue increase. For a more complete explanation of these terms, see the Introduction page 4.

Responsibility indicates the City department or departments bearing the lead responsibility only. Many of the strategies require the participation of a number of departments or other agencies that are not listed.

Summary of Costs, Start Date, and Responsibilities - Operations and Maintenance

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
OM1: Operational Services	$6-$8 million per year, depending upon the level of service desired.	For $8 million, the City can do a reasonable job of meeting its operating needs. With less, service levels decline.	1998, New $	SEATRAN
OM2: Maintenance and Preservation	$18 million per year.	Day-to-day maintenance at a level that takes full advantage of the cost-effectiveness of preventive maintenance.	1998, New $ Major $$	SEATRAN
OM3.1: Paving 1) Ongoing maintenance and Retire backlog 2) Life-cycle cost analysis	1) $13 million per year and $3 million per year to make reasonable progress on the backlog, $9 million per year to eliminate over 20 years (total backlog: $176 million). 2) Nominal	Actual cost cannot be determined until street surfaces are removed and the roadway base has been assessed. This does not include the costs of required upgrades to the City's drainage and wastewater systems, or the cost of non-arterial streets.	1) 1998, New $, Major $$ 2) 1998	SEATRAN
OM3.2: Utility Cuts 1) Strengthen coordination 2) Require CDF use 3) Street Restoration Fund 4) Pedestrian facility restoration	1) $50,000 2) Not available 3) $100,000 4) Nominal		1) 1998 2) 1998 3) 1998 4) 1998	SEATRAN
OM 3.3: Minimize Pavement Damage	$321,000	This is the cost of the current commercial vehicle enforcement program.	1998	SEATRAN
OM3.4: Rehabilitation Ongoing rehab., retire backlog and seismic retrofit	$12.2 million per year for ongoing costs, $46 million one time to retire backlog, and $35 million one time for seismic retrofit.	The ongoing costs is twenty-year average; it would be lower in the early years and higher in later years.	1998, New $, Major $$	SEATRAN
OM3.5: Traffic Controls and Lighting	$5.4 million per year ($4.1 million for traffic control, $1.3 million for lighting)	A systematic effort to replace traffic controls and streetlights before they fail.	1998, New $, Major $$	SEATRAN
OM4: Safety	Not available		1998, New $, Major $$	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Cars

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
C1: Optimize Arterial Streets 1) Operational improvements 2) Capital improvements	1) Varies w/project; Install left turn pocket at $5,000 for simple restriping; up to $100,000 or more if street reconfiguration is necessary. 2) Varies w/ project; Signal interconnect at $10,000-$50,000 per signal. The City recently spent $1.5 million to connect 30 signals on 1st and 4th Avenues.		1) 1998, New $ 2) Major $$	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Walking

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
W1.1: Upgrade Pedestrian Crossings 1) Establish priorities 2) Implement improvements	1) Developing prioritized list of problem crossings: $25,000-$50,000, depending on scope of effort. Curb Bulbs: $5-10,000. Reduce curb radius: $10,000 (from 40' to 20'). Curb ramp: $1,500. Pedestrian Half-signal: $15,000-$25,000. Mid-block crossings: up to $10,000.	Cheaper to focus on known problems than scope entire universe. Costs increase significantly if drainage inlets or utilities have to be relocated.	1) 1998 2) 1998, New $	SEATRAN
W1.2: Crosswalks 1) Review data/policies 2) Mark crosswalks	1) Nominal 2) $350-$400	2) Includes labor, materials, and traffic control.	1) 1998 2) 1998, New $	SEATRAN
W1.3: Pedestrian Barriers	Not available		1998	SEATRAN
W1.4: Adjust Signal Timing 1) Evaluate signal timing 2) Implement improvements	Nominal, per location.		1) 1998, New $ 2) 1998, New $	SEATRAN
W1.5: Pedestrian Push Buttons 1) Continue not installing 2) Deactivate and remove 3) Do not include in project funding grants	$2,000 per intersection.	Can accompany other projects or street work.	1) 1998 2) 1998 3) 1998	SEATRAN
W2.1: New Sidewalks 1) Develop annual list of prioritized projects 2) Build sidewalks 3) Develop/test asphalt residential designs	1) Develop project list: $33,000. 2) Full concrete sidewalks w/ curbs, gutters, and drainage: $3.76-$8.94 million per mile. 3) Concrete or asphalt path with low cost-curb: $1.05-$3.97 million per mile.	Assumes focus on problems rather than evaluate universe. Costs are for both sides of street.	1) 1998 2) 1998, New $ Major $$ 3) 1999, New $	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Walking - continued

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
W2.2: Existing Sidewalks 1) Repair sidewalks 2) Incorporate into capital improvements	$4,000 for 500 sq. ft. $200,000 per year will allow the City to start reducing the current backlog of damaged sidewalks. $250,000-$400,000 per block and up (depending on need to re-crown the street, revise drainage, and relocate existing utilities and amenities).		1) 1998, New $, Major $$ 2) 1998	SEATRAN
W2.3: Revise Sidewalk Funding Policies	Nominal		New $	SEATRAN
W3: Sidewalk Lighting 1) Identify needs 2) Implement improvements 3) Lighting as crime prevention	1) $50,000 2) On existing pole: $800 Lower height pole plus installation: $1,250. Pruning (single crew and truck): about $200,000 per year. 3) Not available	Higher costs for ornamental poles w/underground wiring. Lower costs for use of existing poles. SEATRAN prunes City-owned trees on an average of every 7 to 8 years. This is twice the length of the pruning cycle recommended by most arborists.	1) New $ 2) Major $$	SEATRAN 3) SPD
W4.1: Review Design Standards	$50,000--one-time cost	Includes revision process. Update of standard specs now underway.	1999, Post-1999	SEATRAN DCLU
W4.2: Key Pedestrian Streets 1) Code consolidation 2) Designate streets 3) Develop plans and funding strategies	$50,000--one-time cost		1) 1998 2) 1998 3) 1998	SPO SEATRAN NPO DCLU
W5: Funding Guidelines	Nominal		1998	SEATRAN SPO
W6: Innovative Projects	Depends on project		1998, New $	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Bicycling

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
B1: Complete and Expand Urban Trails network 1) Develop list of priority improvements 2) Amend Urban Trails map in Comprehensive Plan	Trail: $1.2 million per mile, not including structures. Painted bike lane: $7,000 per 660' block (lanes on two street-sides). Bicycle route signs: $150 per sign. Traffic circles: $ 8,000. Planning and Development: $50,000 (includes B2, below).		1) 1998, New $ 2) 1998	SEATRAN
B2: Eliminate Barriers and Resolve Safety Problems 1) Identify barriers 2) Continue Spot Improvement Program 3) Provide bike access for traffic control devices	Costs vary widely depending on the barrier. Pothole patching: $1500 per 500 square feet. Traffic sign: $150 per sign. Install bike racks (see B5, below). Planning and Development: $50,000 (includes B1, above).	Current budget: $100,000-$500,000, depending on grants	1) 1998, New $ 2) 1998, New $ 3) 1998	SEATRAN
B3: Bridge Access 1) Give pedestrians and bikes safe, convenient access 2) Access during construction period	Varies w/project.		1) 1998 2) 1998	SEATRAN
B4: Street Space 1) Install wide curb lanes 2) Street priority to bicyclists	1) Painted lane: $3,500 per 660' block; Widen existing lane: $500,000 for 10' wide by 600' long. 2) Nominal	Higher cost if street needs to be recrowned, if there is more than average utility relocation. Lower if doing several nearby locations.	1) 1998 2) 1998	SEATRAN
B5: Bicycle Parking 1) Install bike racks 2) Review Code requirements	1) Install bike rack: $200 for simple racks; $550-$900 for larger racks. 2) $30,000		1) 1998 2) 1999	SEATRAN DCLU SPO
B6: Improve Funding Guidelines	Nominal		1998	SEATRAN
B7: Support Innovative Projects	Depends on project.		1998, New $	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Transit

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
T1.1: Seattle Transit Initiative 1) Speed and reliability improvements 2) New transit options 3) Strengthen collaboration	1) See T2.1-T2.6, below 2) See NT2, below 3) Not available		1) 1998 New $ 2) 1999, Major $$ 3) 1998	SPO SEATRAN
T2.1: Reduce Transit Bottlenecks	Vary widely. Examples: Parking meter removal: $400 No-parking signs: $150 Restriping at intersection: $500 Wider curb radius: $10,000-$20,000 Queue Bypass: $25,000-$2.5 million, depending on the need to reprofile street and change traffic controls. Planning and development for systematic program: $100,000-$300,000, depending on level of effort.	If stand-alone project, funding generally from King County Metro. If combined with larger projects, cost may be shared with City. City contributions to the construction cost would considerably accelerate project implementation.	1998, New $	SEATRAN
T2.2: Signal Priority	Planning and development: $100,000-$200,000 depending on the level of effort. Retime signal: nominal	King County Metro will fund the capital costs of signal preemption projects.	1998, New $	SEATRAN
T2.3: Re-entry Delays 1) Install bus bulbs 2) Yield to bus enforcement campaign	1) Bulbs cost about $50,000 (depending on size, paving treatments and amenities, and other factors). 2) Not available		1) New $, Major $$ 2) Post-1999	SEATRAN
T2.4: Consolidate Bus Stops	Not available		1998, New $	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Transit - continued

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
T2.5: Encourage King County Metro to Buy Low-floor Buses	Nominal	The price difference between low-floor and regular buses is not significant.	1998	SEATRAN
T2.6: Develop More Efficient Fare Systems	Nominal	King County Metro would fund costs.	1998	SEATRAN
T3.1: Bus Stop Improvements 1) Identify key locations, pursue private investment 2) Design, implement improvements	Planning and development needed to move this strategy forward: $25,000-$50,000. Costs for a full range of improvements at a single stop range from $100,000-$250,000.	King County Metro's Six-Year Plan has $16.3 million budgeted for transfer point improvements system-wide, and $27 million budgeted for transit hub improvements. There are ten Seattle transit hub locations.	1) 1998 2) New $	SEATRAN SPO
T3.2: Improve Bus Service Information	Planning and development: $25,000-$100,000.	King County Metro will have to lead effort.	1998, New $, Major $$	SEATRAN
T3.3: Explore Real-time Bus Information	Planning and development: $25,000-$50,000	King County Metro would fund actual development costs.	1998	SEATRAN
T4: Transit Service Priorities 1) Develop priorities 2) Promote performance standards 3) Reallocate recaptured service 4) Update and integrate classifications	$100,000-$200,000, depending on level of effort.		1) 1998 2) 1998 3) 1998 4) 1999	SPO SEATRAN
T5.1 Participate In Fare Reduction Efforts	Depends on level of effort.		Post-1999, New $	SPO SEATRAN
T5.2 Free Ride Zone Expansion	$15,000 (planning)		1999	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities - Transit - continued

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
T5.3: Support Equitable Fare Structure	Nominal		1998	SEATRAN SPO
T6: Discourage Park And Rides 1) Do not permit, with exceptions 2) Promote walking, bike, and transit access	Nominal but not including analysis of proposed park and rides.		1) 1998 2) 1998	SPO SEATRAN
T7: Support King County Metro's Public Involvement Process 1) Work with King County Metro on public involvement 2) Work to incorporate neighborhood plans	Nominal		1) 1998 2) 1998	SEATRAN SPO
T8: Transit Innovations 1) Test new services 2) Evaluate neighborhood circulators 3) Explore opportunities for new technologies	1) Depends on project 2) $25,000, shared with King County Metro.		1) 1998 2) 1999, New $ 3) Post-1999	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities – New Transit Strategies

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
NT1: Extend Monorail Service 1) Support planning effort and work with ETC to identify and secure funding 2) Integrate into Seattle Transit Initiative	Not available	The City gave $200,000 to the ETC in 1998 for administrative costs.	1) 1998, New $, Major $$ 2) 1998	SPO
NT2: Seattle Transit Initiative 1)Work with partners to evaluate options 2) Implement system	1) $750,000 2) Not available		1) 1998, New $ 2) 1999, Major $$	SEATRAN SPO
NT3: Water-based Transit Service 1) Work to continue the Elliott Bay Water Taxi 2) Explore options for other water-based services	1) $140,000 2) $100,000	1) Includes match for dock improvements, docking study, and staff time.	1) 1998, New $ 2) New $	SEATRAN DON SPO

Summary of Costs, Start Date, and Responsibilities - Sound Transit

Strategy/Action	Cost	Comments	Start Date	Rspnsblty
ST1: Ensure Sound Transit Provides Best Possible High Capacity Transit Service 1) Work to build system 2) Connect Sound Transit with local transit trips 3) Adopt easy, effective fare system 4) Identify additions to light rail system	Not available		1) 1998 2) 1998 3) 1998 4) Post-1999, New $	SPO
ST2: Secure Effective Public Involvement	Not available		1998	SPO NPO
ST3: Sound Transit Station Area Planning 1) Promote station area planning process 2) Make sure stations accessible by walking, transit, and biking 3) Target station areas for appropriate housing and commercial development 4) Promote good station design	$2.5 million for 2.5 years	Sound Transit is reimbursing the City under an interlocal agreement.	1) 1998 2) 1998 3) 1998 4) 1998	SPO DCLU
ST4: Maximize Economic Benefits 1) Promote local contracting and hiring 2) Establish job development initiatives 3) Protect fragile business areas 4) Support investment in commuter rail	Not available		1) 1998 2) 1998 3) 1998 4) 1998	OED
ST5: Integrate Infrastructure Investments	Not available		1998	SPU, SEATRAN
ST6: Seek Financing For Unfunded Components	Nominal		1998	OIR
ST7: Ensure Fair Transit Re-Deployment	Nominal		1998	SPO SEATRAN
ST8: Promote Bicycle Access to Sound Transit 1) Ensure safe, convenient access to stations 2) Ensure adequate bike parking and storage 3) Maximize bike access on light rail trains 4) Protect and enhance bike facilities in rail corridors	Nominal Bike racks: $550-$900 each. Bike lockers: $3500 each.	Sound Transit would cover the actual facility costs.	1) 1998 2) 1998 3) 1998 4) 1998	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities - Transportation Demand Management

Strategy	Cost	Comments	Start Date	Rspnsblty
DM1: Trip Reduction Initiative 1) Develop comprehensive program 2) Strengthen collaboration	1) See Strategies DM2-17, below 2) Not available		1) New $ 2) 1998	SPO SEATRAN
DM2: Flex Pass Programs 1) Work w/ King County Metro to investigate Flex Pass 2) Work w/ King County Metro on incentive fund	1) Nominal 2) Depends on the size of the fund; $250,000 would be a good start	If the City contributed a $25 subsidy to each annual pass, given an average of 164 trips, each trip would cost the City about 15 cents.	1) 1998 2) 1998, New $	SPO SEATRAN
DM3: Carpools/Vanpools 1) Participate in regional assessment 2) Support funding 3) Continue on-street program 4) Make lighting enhancements 5) Amend Land Use Code for carpool/vanpool spaces beyond existing requirements 6) Develop strategies for shared parking spaces	1) Nominal 2) Nominal 3) $300,000 per year, including freeway lot maintenance. 4) Approximately $35,000 one-time, plus annual operating costs. 5) $4,000, plus enforcement and monitoring.		1) Post-1999 2) 1998 3) 1998 4) New $ 5) 1999 6) Post-1999	SEATRAN DCLU SPO
DM4: Helping Small Businesses 1) Small business assistance 2) Evaluate/implement other strategies	1) $50,000 per year for a modest program target two business associations each year. 2) $50,000		1) New $ 2) New $	SEATRAN
DM5: Using Parking Cash-out 1) Work to promote 2) Evaluate requirements/incentives 3) Education programs	$10,000-$25,000		1) 1999 2) 1999 3) Post-1999	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities - Transportation Demand Management - continued

Strategy	Cost	Comments	Start Date	Rspnsblty
DM6.1: Update Older TMPs	$50,000 per year for three years		New $	SEATRAN
DM6.2: Monitoring and Support of TMPs 1) Increase staff resources 2) Streamlined TMP reporting and tracking	1) $100,000 per year 2) $35,000 – one time cost		1) New $ 2) New $	SEATRAN DCLU
DM6.3: Residential TMPs	$25,000 to develop models		New $	DCLU SEATRAN
DM7: TDM Grants Program	Depends on size of program. $200,000 would fund modest program.		New $	SPO SEATRAN
DM8: Seattle Smart Card	Not available		1998, New $, Major $$	ESD SPO SEATRAN
DM9: Telecommuting 1) Educate Employers 2) Work to set up satellite sites	$100,000 per year		1) 1998, New $ 2) New $	SEATRAN
DM10: Proximate Commuting	$50,000 to develop options; implementation costs depend on strategies selected.		New $	SPO SEATRAN
DM11: Car-Sharing 1) Demonstration program 2) On- and off-street parking options	$30,000 (for 1999-2000)	King County is also funding.	1) 1998 2) 1998	SEATRAN SPO
DM12: Unbundle Parking	$25,000 to develop proposal/options.		1998	SPO
DM13: Transportation Pricing 1) Reform transportation pricing 2) Pursue revenue sources	$15,000-$25,000		1) 1998 2) 1998	SPO SEATRAN
DM14: Major Corridor Projects	Nominal		1998	SEATRAN SPO

Summary of Costs, Start Date, and Responsibilities - Transportation Demand Management - continued

Strategy	Cost	Comments	Start Date	Rspnsblty
DM15.1: TDM Education and Marketing Campaign 1) Develop and implement campaign 2) Develop programs for non-work trips	Depends on scope of program for how costs are shared with other jurisdictions.		1) New $ 2) New $	SPO SEATRAN
DM15.2: TDM Education in Schools 1) Work with SEEC and others 2) Work into Drivers Ed.	Materials: $50,000 Planning and Development: $50,000 per year		1) New $ 2) New $	SPO SEATRAN
DM16: Recognize Good TDM Programs	$50,000 annual sponsor contribution.	Proportionately similar to contributions from other public agencies.	1998, New $	SEATRAN
DM17: Regional Collaboration	Not available		1998	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities - Additional Strategies

Strategy	Cost	Comments	Start Date	Rspnsblty
A1: Incorporate Improvements 1) Evaluate and incorporate improvements 2) Training for City staff	Varies widely		1) 1998 2) 1998, New $	SEATRAN
A2.1: Work with Ferries on Passenger Orientation, Transit Connections	$10,000 per year.		1998	SPO
A2.2: Improve Transit Connections for Walk-on Ferry Passengers	Unavailable		1) 1998 2) Post-1999	SPO
A3: Use Signal Interconnect, Detection, and Control Systems 1) Signal timing 2) Signal interconnect	Signal interconnect: $10,000-$50,000 per signal. Loop detector: $3,000 per lane approach. Much cheaper as part of larger project.	Higher interconnect cost if more upgrade of existing equipment is needed, and if interconnect extends to City's traffic management center.	1) 1998, New $ 2) 1998, New $ Major $$	SEATRAN
A3.1: Use ITS systems 1) Help complete ITS Plan 2) Implement projects	$5 million, to complete implementation of ITS Plan.		1) 1998 2) New $ Major $$	SEATRAN
A4: Traffic and Parking Enforcement 1) Analyze accident patterns; enforcement strategy 2) Expand education 3) Develop brochures 4) Emphasis campaigns	1) $20,000 2) $25,000, depending on level of effort. 3) $30,000 4) Not available.		1) New $ 2) 1998, New $ 3) New $ 4) Post-1999	SEATRAN SPD SPO 4) SPD
A5: Increase Availability of Taxi Stands 1) Work to create taxi stands 2) Encourage off-street queuing areas	$10,000-$25,000		1) 1999, New $ 2) New $	SEATRAN
A6: Improve Traveler Information 1) Develop & display maps 2) Participate in efforts to provide real-time information.	High (specific estimate not available)		1) New $ 2) New $	SEATRAN SPO

Summary of Costs, Start Date, and Responsibilities - Neighborhoods

Strategy	Cost	Comments	Start Date	Rspnsblty
N1: Neighborhood Traffic Control Program: Continue current program	Landscaped traffic circle on asphalt/concrete street: $4,000/$6,000. Landscaped chicanes on asphalt/concrete street: $8,000/$14,000. Choker on asphalt/concrete street: $7,000/$13,000. Curb radius reduction: $10,000-20,000. Landscaped street closure: $30,000-$100,000. Landscaped partial street closure: $6,000. Signs and paint only: $500. Planning and Development: $500,000.	Based on current budget.	1998	SEATRAN
N2: Improving Streetscapes On Central Streets 1) Work with neighborhoods to design, fund improvements 2) Designate Key Pedestrian Streets	1) $200,000-$400,000 for program, depending on level of effort. 2) Planning and Development: $100,000. 3) $50,000--one-time cost.		1) 1998, New $, Major $$ 2) 1998, New $	SEATRAN SPO NPO
N3: Neighborhood Business Districts 1) Identify Gaps 2) Provide information 3) Host/support forum	1) $15,000 2) $25,000 3) $5,000		1) 1998 2) 1998 3) New $	OED, NPO.
N4.1: Strengthen Pedestrian Standards 1) Review Land Use Code 2) Review rezones/street vacations	1) $10,000 2) Nominal	Around Sound Transit stations in 1999 through City's Station Area Planning process and post-1999 for other parts of city.	1) 1999, Post-1999 2) 1998	DCLU SEATRAN

Summary of Costs, Start Date, and Responsibilities - Neighborhoods - continued

Strategy	Cost	Comments	Start Date	Rspnsblty
N4.2: Make Streets With Transit Service Pedestrian-friendly 1) Include in criteria 2) Designate as Key Pedestrian Streets 3) Increase sidewalk widths	1) Nominal 2) Covered in W4.2, above, $150/sq.ft for added width plus $8/sq.ft of existing sidewalk if regrading is necessary. Widening a 10' sidewalk to 12' on one side of a 600' block would cost $180,000 if regrading were not necessary, and about $230,000 if it were.	The less a sidewalk is widened, the less likely the existing sidewalk will need to be regraded.	1) 1998 2) 1998 3) Post-1999, New $, Major $$	SEATRAN
N4.3: Supplement And Extend Design Review Guidelines	$5,000		1999, Post-1999	DCLU
N4.4: Support Transit With Appropriate Densities 1) Evaluate Land Use Code provisions for development densities 2) Work with neighborhoods	1) $3,000 to assess existing provisions Changes will also be evaluated as part of Sound Transit work, Neighborhood Planning process. 2) Part of Neighborhood Planning process.		1) 1999, Post-1999 2) 1998	1) DCLU 2) NPO
N4.5: Density Standards	$30,000		1999, Post-1999	DCLU SPO
N5: Location Efficient Mortgages	Not available		1998	DHHS
N6: Develop and Implement Green Streets 1) Continue designating 2) Assist in developing plans and funding strategies	Planning and Development: $100,000 Implementation costs depend on specific improvements.		1) 1998 2) 1998, New $	SEATRAN SPO DCLU

Summary of Costs, Start Date, and Responsibilities – Protecting Our Environment

Strategy	Cost	Comments	Start Date	Rspnsblty
ENV1: Advocate for Fuel Efficient Vehicles	Nominal		1998	OIR
ENV2: Encourage Cleaner Fuels 1) Strategies and materials 2) Encourage private fleets 3) Partnerships for refueling 4) New legislation 5) Electric infrastructure 6) Transit and large fleets	Cost estimates are being developed. These costs will be determined and shared by participants in the Clean Cities Coalition.		1) 1998, New $ 2) 1999, New $ 3) 1998, 1999, New $ 4) 1999 5) 1998, Post-1999, New $ 6) 1998, 1999, New $	SPO OIR SCL ESD
ENV3: Reduce Noise Impacts 1) Lobby State Legislature 2) Work w/ WSDOT	1) Nominal 2) Not available		1) 1998 2) 1998, New $	1) OIR, SPO 2) SEATRAN

Summary of Costs, Start Date, and Responsibilities - Moving Freight and Goods

Strategy	Cost	Comments	Start Date	Rspnsblty
FM1.1: Fix Obstacles on Truck Routes 1) Develop list of priorities 2) Implement projects	Curb radius: $10,000-$20,000; Utility pole relocation:$1000-$1500 per pole. Planning and Development: $100,000-$300,000, to establish annual program.		1) 1998 2) 1998, New $	SEATRAN
FM1.2: Review Design Standards	$50,000--one-time cost	Includes revision process.	1999, Post-1999	SEATRAN
FM1.3: Pavement on Truck Routes 1) Add truck streets to paving criteria 2) Add critical non-arterials to paving program	1) Nominal 2) $80-$100 per square yard for full concrete pavement.		1) 1998 2) New $ Major $$	SEATRAN
FM2.1: Grade Separate Key Routes 1) Develop list of priorities 2) Implement projects	$20-100 million estimated. $20 million estimated for S. Lander Street. $100 million estimated for S. Royal Brougham		1) 1998 2) Major $$	SEATRAN
FM2.2: Explore Strategies for Minimizing Other Conflicts	$25,000 to formally evaluate specific options and policies.		1998, New $ Major $$	SEATRAN
FM3.1: Relocate Facilities To Avoid Road/Rail Conflicts	$500,000-$1 million per location to relocate rail tracks or to construct new access roadway. Planning and Development: $50,000.		New $	SEATRAN
FM3.2: Coordinate Signals	$50,000-$100,000 to interconnect small system. Planning and Development: $25,000.		New $	SEATRAN
FM4: Develop and Implement Strategies to Preserve Rail Corridors and Capacity	$15,000 to develop strategies.		1998, Post-1999 New $	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Moving Freight and Goods - continued

Strategy	Cost	Comments	Start Date	Rspnsblty
FM5: Evaluate Potential Code Changes Regarding Rail Operations	$25,000		1999, New $	SEATRAN
FM6: Develop and Implement Strategies to Protect/Improve Freight Access to M/I Areas	$20,000 to develop strategies.		1998, New $ Major $$	SEATRAN
FM7: Develop and Implement Goods Delivery Strategies	$25,000 to develop strategies.		1998, New $	SEATRAN
FM8: Review Marine and Air Access Policies	$10,000		New $	SEATRAN
FM9: Develop Funding Partnerships	$25,000		1998	SEATRAN
FM10: Coordinate Work on Freight Issues	$100,000 annual cost.	Already established as a part-time position.	1998	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Parking

Strategy	Cost	Comments	Start Date	Rspnsblty
P1.1: Review Parking Requirements 1) Conduct Parking Study 2) Adjust requirements as appropriate	$120,000 for study.		1) 1999 2) 1999	DCLU SPO
P1.2: Increase Flexibility 1) Review and expand flexibility in parking requirements 2) Evaluate shared parking	$15,000, plus work included in P1.1 above.	Does not include ongoing staff time to review projects requesting exceptions or enforcement.	1) 1999 2) 1999	DCLU SPO
P1.3: Off-site Parking for Multi-family Residential	$5,000		1998	DCLU
P2: Work w/ Neighborhoods on Parking Management	$50,000-$100,000		1998, New $	NPO SPO
P3: Transition to Centralized Parking garages	$20,000 for study.	A detailed financial evaluation is available regarding the construction and operation of parking garages within urban villages.	Post-1999	SPO DCLU
P4: Make Parking More Pedestrian-friendly 1) Evaluate current standards, improvements 2) Key Pedestrian street requirements	$10,000	Around Sound Transit stations in 1999 through City's Station Area Planning process and post-1999 for other parts of city.	1999, Post-1999	DCLU
P5: 72-hour On-street Parking	Nominal		1998	SEATRAN SPD
P6: Curb Space Priorities 1) Formalize existing policy 2) Review parking fines	Nominal		1) 1999 2) 1998	1) SEATRAN 2) LAW
P7: Develop Parking Navigator Systems	$25,000-$50,000 for Planning and Development.		1998, New $	SPO
P8: Parking Management Strategies Roundtable	$10,000-$25,000		1999	SPO

Summary of Costs, Start Date, and Responsibilities - Funding

Strategy	Cost	Comments	Start Date	Rspnsblty
F1: Increase General Fund Support	Depends on amount.		1998, Post-1999	N/A
F2: Increase Gas Tax Revenues Lobby Legislature	Staff time to develop the proposal is a portion of the time that the City spends lobbying state issues.		1998	OIR
F3: Local Option Gas Tax	Staff time to develop the proposal is a portion of the time that the City spends lobbying state issues.		1998	SPO
F4: Commuter Parking Tax 1) Evaluate options 2) Lobby for improvements	Staff time to develop the proposal is a portion of the time that the City spends lobbying state issues.		1998	OIR SPO
F5: Property Taxes 1) Bond measure as last resort 2) Include transportation projects in neighborhood bond 3) Consider lobbying for transportation levy	Staff time to develop the proposal is a portion of the time that the City spends lobbying state issues.		1) Post-1999 2) Post-1999 3) Post-1999	OIR SPO
F6: Localized Revenue Sources 1) Continue to evaluate alternatives sources 2) Organize LIDs	1) Not Available 2) $400,000-$500,000 for a small program to organize LIDs.		1) 1998 2) 1999	SEATRAN
F7: Support Efforts to Develop Transportation Pricing Strategies	Not available.		1998	SPO SEATRAN

Summary of Costs, Start Date, and Responsibilities - Priorities

Strategy	Cost	Comments	Start Date	Rspnsblty
Use Criteria To Rank Funding Priorities	Not available		1998	SEATRAN
Develop a More Rigorous Process for Evaluating/Ranking Discrete Capital Improvements	$50,000--one-time cost		1998	SEATRAN
Review and Evaluate Prioritization Process	$25,000--one-time cost		1998	SEATRAN

Summary of Costs, Start Date, and Responsibilities - Evaluation

Strategy	Cost	Comments	Start Date	Rspnsblty
E1: Establish Indicators to Monitor Progress	Nominal		1999	SPO
E2: Evaluate Strategies as They Are Implemented	Not available but significant.		1998	Implementing Department
E3: Track Implementation and Prepare Annual Report	$20,000		1999	SEATRAN SPO

Summary of the Transportation Strategic Plan Public Involvement Process

This Appendix outlines the entire scope of the public involvement that the Strategic Planning Office (SPO), Seattle Transportation (SEATRAN) and the City Council Transportation Committee have undertaken on the Transportation Strategic Plan. Our outreach efforts break down into the following categories.

• Distribution of Draft Transportation Strategic Plan and Plan Summary

• Public Forums

• Presentations to Interested Groups

• Internet Access

• Public comment period on Mayor's Recommended Transportation Strategic Plan

• Survey of Seattle citizens

These efforts are discussed in more detail below. But first, a brief reminder about the history of our outreach is also helpful. An earlier version of the Draft Transportation Strategic Plan (TSP) was finalized in June 1997. Because the City had just placed a transportation bond measure on the November 1997 ballot, public involvement on the Plan was postponed until after the election; an active public involvement process could have been construed as supporting the bond measure. However, copies of an abridged Draft Plan were mailed to neighborhood planning members in July. In addition, a full copy of the Draft Transportation Strategic Plan was available upon request.

The official Public Review Draft of the Draft Transportation Strategic Plan was released on March 3, 1998 with public involvement scheduled through the end of May 1998.

Distribution of Draft Plan and Plan Summary

The Executive distributed over 1,500 Draft Plans and thousands of summaries in response to requests, as part of presentations, and through many City government offices, other government agencies, and outside organizations. Examples include neighborhood planning meetings, the Seattle Public Libraries, Neighborhood Service Centers, over 40 different community meetings, and the Seattle Planning and Design Commissions.

Public Forums

The Executive held six public forums on the Plan at locations around the city in Ballard, Lake City, Capitol Hill, Columbia City, West Seattle, and Downtown Seattle.

Presentations to Interested Groups

In addition to holding the Public Forums, the City made presentations to interested organizations to reduce the burden on people having to come to us to comment on the Draft Plan. City staff made presentations to over 25 organizations around the city.

Internet Access

The entire Draft Transportation Strategic Plan and the survey were available to download from the SEATRAN web page. The address is www.pan.ci.seattle.wa.us/seattle/td/tsp/strategy.htm. People could also comment electronically at TSP.comment@ci.seattle.wa.us.

Incorporating Public Comments

In addition to testimony received at the Public Forums or other presentations to interest groups, the Executive received over a hundred written and e-mail comments from individuals and organizations.

The public comments were organized in a matrix by TSP chapter and strategy. Staff from SPO, SEATRAN, the Department of Construction and Land Use, and other involved departments studied the comments thoroughly to develop appropriate changes in the Plan. The Mayor's Recommended TSP changed substantially from the Public Review Draft, in response to comments and suggestions. Due to the large number of comments received, the Executive is not responding directly to everyone who submitted comments.

City Council Public Comment Period

The City Council Transportation Committee held two public hearings on the Mayor's Recommended TSP on September 1 and 3, 1998 and also accepted written comments on the plan. These comments were incorporated into the adopted TSP.

Survey of Seattle Citizens

The eight-page Summary of the Draft Transportation Strategic Plan highlighted the major issues and strategies in the longer Draft Plan. The Summary's main purpose was to notify and educate the general public about transportation problems and solutions in the TSP. The Summary also contained a survey with fourteen questions to elicit feedback on the policies in the Draft Plan.

The Summary and Survey were mailed to a random sample of 36,000 registered voters living in Seattle. The survey used a business reply mail permit so that people could return it without postage. The Survey and Summary were mailed out during the third week of May 1998.

In an effort to increase survey response, we contracted with a consulting firm to phone a subset of people that received the Plan Summary and Survey. We reached about 5,000 people by phone with a short reminder to mail back the survey.

In total, we received back about 3,360 survey responses out of the 36,000 surveys mailed out, a return rate of almost ten percent. This response is completely remarkable for a voluntary survey.

The survey is also validated by its consistency with Census data for travel behavior from the 1990 Census. The Survey asked people to give the most common or typical transportation mode to work or school. The categories were SOV, Carpool/ Vanpool, Bus/ Train, Bike, Walk, and Other. The mode split results are presented here. Of the 2,845 respondents, 53 percent take SOV, 28 percent use Bus/ Train, 8 percent use Carpool/ Vanpool, 6 percent use walking, and 5 percent use Biking. These numbers are consistent with 1990 Census data for transportation mode splits for work trips.

The Survey is reproduced on the next page. Most of the questions offered six potential responses: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree, Don't Know. The questions were

intended to gauge people's response to major TSP issues, and whether people agreed or disagreed with the following:

- A general statement about the emphasis in the City's Comprehensive Plan on transit, walking, biking, and other non-SOV modes versus accommodating more SOV trips.

- Statements supporting 1. traffic signalization improvements, 2. bicycle, 3. pedestrians, and 4. transit facilities, 5. more parking in neighborhood commercial areas, and 6. moving freight and goods by rail and truck.

- A statement about raising taxes to pay for transportation improvements.

- People were asked to distribute $100 among a list of transportation programs: maintenance and operations of city streets, pedestrian improvements, bicycle facilities, public transit improvements, transportation demand management programs, neighborhood transportation improvements, and truck and rail freight projects.

Most of the questions also provided trade-offs, so that people could put the question in the larger context of the City's transportation decision-making process.

Data Results

This section describes the survey findings. For Questions 1-8, respondents answered to what degree they agreed with the statement in a range from 5 (Strongly Agreed) to 1 (Strongly Disagreed) and Zero (Don't Know). Note that not all survey respondents answered all the questions, so the total number of responses for each question is given. Pie charts illustrating the results are presented here.

Question 1 stated: The City of Seattle should make Seattle a safer and more convenient place to ride the bus, walk, or otherwise get around, rather than accommodating single-occupant automobile growth.

Of the 3,290 respondents to this question, 85 percent strongly agreed and agreed with the statement. Only 8 percent strongly disagreed or disagreed. The average answer was 4.4.

Question 2 stated: The City should install traffic signal "synchronizing" systems that increase traffic flow on arterial streets, even if this might increase the time it takes for pedestrians to cross those streets.

Of the 3,261 respondents to this question, 37 percent strongly agreed, 33 percent agreed, and 17 percent strongly disagreed or disagreed. The average response was 3.8.

Question 3 stated: The City should put in improvements that make Seattle streets safer and more convenient for pedestrians (with measures such as installing pedestrian curb bulbs), even if they might slow vehicle traffic.

Of the 3,205 respondents, 26 percent strongly agreed, 28 percent agreed, and 21 percent strongly disagreed or disagreed. The average response was 3.5.

Question 4 stated: The City should expand the City's bicycle network in order to encourage more people to bike.

Of the 3,288 respondents, 40 percent strongly agreed, 26 percent agreed, and 16 percent strongly disagreed or disagreed. The average response was 3.8.

Question 5 stated: The City should push for improvements that make existing and new transit services faster and more reliable, even if these improvements might slow other vehicles.

Of the 3,272 respondents, 43 percent strongly agreed, 33 percent agreed, and 10 percent strongly disagreed or disagreed. The average answer was 4.1.

Question 6 stated: Neighborhood commercial areas need parking policies that provide additional parking, even if that might bring more traffic congestion to the area.

Of the 3,135 respondents, only 9 percent strongly agreed, 26 percent agreed, 26 percent was neutral, 26 percent disagreed and 13 percent strongly disagreed. The average answer was 2.9.

Questions 6, 7, and 8 were the only ones with "significant" agree, neutral, and disagree responses. Responses to most of the other questions leaned strongly towards the strongly agree and agree categories.

Question 7 stated: The City should fund transportation projects that promote truck and rail access to the city's ports and industrial areas, even if the projects tend to be expensive.

Of the 3,026 respondents, 15 percent strongly agreed, 29 percent agreed, 31 percent were neutral, and 25 percent strongly disagreed or disagreed. The average answer was 3.2.

Question 8 stated: The City should increase taxes to fund transportation improvements.

Of the 3,166 respondents, 17 percent strongly agreed, 34 percent agreed, 23 percent were neutral, and 26 percent evenly strongly disagreed or disagreed. The average response was 3.8.

Question 9 stated: There are several ways the City can increase transportation revenues. All funds would be dedicated to transportation. Please rank the following three options in order of your personal preference (1 = highest preference: Local option county-level gas tax, employee parking tax, and a property tax increase.

The average answers for the gas tax, the parking tax, and the property tax were: 1.5, 1.8, and 2.6. The gasoline tax received the most #1 rankings, the parking tax received the most #2 rankings, and the property tax, by far, received the most #3 rankings.

Question 10 stated: If you had one hundred dollars, how would you spend it along these categories?

This question asked respondents to vote with dollars for eight transportation categories, with the following average responses: Maintenance and Operations and Public Transit Improvements received the two highest rankings at $27 each. Pedestrian Improvements, Bicycle Improvements, Transportation Demand Management, and Neighborhoods received votes of $10 or $9. Freight Mobility received $6. The Other category, where people wrote in a wide variety of transportation and non-transportation related programs, received $2.

Analysis by Mode Choice

The Survey asked people to give the most common or typical transportation mode to work or school. The categories were SOV, Carpool/ Vanpool, Bus/ Train, Bike, Walk, and Other. The

mode split data can be compared to the Survey Questions 1-9 described above using cross-tabulation analysis. Particularly interesting is whether people that typically drive alone agreed with supporting alternative transportation mode choices.

Question 1: Concerning support for non-SOV modes over accommodating automobiles, all of the mode choices selected between Agree or Strongly Agree on average. People that drive alone (SOV) to work agreed to this statement (4.12 average).

Question 2: About synchronizing traffic signals, all of the modes ranged from Agree to Neutral. SOV (4.07 average) and Carpool/ Vanpool users were more likely to support synchronizing lights than non-auto modes, especially bicyclists.

Question 3: Concerning making improvements for pedestrians, all of the modes ranged from Agree to Neutral. The SOV (3.31 average) and carpool/ vanpool (3.35 average) users were less likely to support the pedestrian improvements, compared to bicyclists (4.16 average) and walkers (3.81 average).

Question 4: About whether the City should expand the City's bicycle network, all of the modes ranged from Strongly Agree to Agree. The carpool/ vanpool (3.77 average) and SOV (3.72 average) users were less likely to support bicycle improvements, compared to bicyclists (4.89 average) and pedestrians and transit users.

Question 5: On whether the City should push for improvements to promote transit, all of the modes ranged from Strongly Agree to Agree. Those people who bike, bus and walk all strongly agreed and SOV and carpool/vanpool users agreed.

Question 6: On whether neighborhood commercial areas need parking policies that provide additional parking, all of the modes ranged from Neutral to Disagree. SOV users were neutral (3.01 average) and the other modes disagreed, especially bicyclists (2.36 average).

Question 7: About whether the City should fund freight mobility transportation projects, all the modes were close to one another around Neutral.

Question 8: On whether the City should increase taxes to fund transportation improvements, all the modes ranged from Agree to Neutral. Bicyclists had the highest average (3.84) but the other modes were close to Neutral.

Question 9: Respondents were asked to rank the three transportation tax measures in order of preference and the responses were similar across modes.

Due to the question's complexity, Question 10 was not analyzed by travel mode choice.

Analysis by Age and Sex

Survey respondents were asked their age (Question 12) within the following categories: Under 18, 19-34, 35-49, 50-64, and 65 and over. Note that the Survey was sent to registered Seattle voters. The respondents age was closely split between most adult categories.

Survey respondents were asked their sex: Male or Female. The numbers were evenly divided between the two.

Conclusions

Overall, the survey results appear to support the policies found in the Transportation Strategic Plan, the City's Comprehensive Plan, and other City transportation policies and programs.

The Transportation Strategic Plan contains a strong commitment to "making Seattle a safer and more convenient place to ride the bus, walk, or otherwise get around," rather than accommodating the single-occupant automobile. This view was expressed by 85 percent of the survey respondents. The TSP contains a large number of strategies that support walking, bicycling, public transit, and parking that are intended to turn these Comprehensive Plan goals into reality. The TSP also responds to survey respondents' interest in installing traffic signal synchronizing systems that more efficiently control arterial traffic flow.

Several survey questions asked about how the City should finance transportation programs and projects. Survey respondents strongly endorsed transportation user fees such as a gas tax and parking tax over property taxes. These preferences are reflected in the TSP Funding chapter.