



2011-2012 Proposal

Section 1: Proposal Descriptors

Proposal Title: M-7 Neighborhood Traffic Calming Program		Proposal Number: 130.15PN (Updated to Reflect Council Adoption)
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Karen Gonzalez		One-Time/On-Going: On-Going
Fund: CIP	Attachments: No	Enter CIP Plan #: PW-M-7
List Parent/Dependent Proposal(s): 130.15.DN – Neighborhood Traffic Calming Program – Reduction		

Section 2: Executive Summary

This proposal reduces the capital resources to design and construct traffic calming plans that address severe neighborhood traffic impacts, a major concern for Bellevue residents. The City receives over 500 citizen requests each year for solutions to traffic and pedestrian safety issues occurring in their neighborhoods. The Neighborhood Traffic Calming Program (NTCP) addresses speeding vehicles, motorists cutting through neighborhoods instead of using arterial streets, and pedestrian/traffic safety concerns. This proposal reducesthe \$450,000 per year to \$215,000 average per year, over the next 7 year CIP period, that funds the design and construction of physical traffic calming measures such as speed humps, traffic circles, and raised crosswalks.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru	2010	2011	2012	2013	2014	2015	2016	2017
Costs		\$6,140,000	\$100,000	\$350,000	\$350,000	\$350,000	\$350,000	\$0	\$0
2011-2017 Total						\$1,500,000			
CIP M&O			TBD						
Supporting Revenue									
			\$0	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE									
FTE			0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE			0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

Cost Savings

Terminating the design and construction of physical traffic calming measures from the Neighborhood Traffic Calming Program (NTCP) eliminates the capital needs by \$450,000 per year (total Capital Investment Program budget). Operating expenses would decrease as the City would no longer facilitate traffic committees that engage the community in the development and installation of physical traffic calming measures, such as speed humps, traffic circles, and raised crosswalks.

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Partnerships

Internal: Staff would continue to share with Police Traffic the results of speed and volume studies ensuring that enforcement activities can be scheduled and resources deployed when most needed, improving effectiveness and efficiencies. However, by terminating NTCP Phase II, this proposal eliminates opportunities to partner with the Police Department and Fire Department on physical traffic calming projects to improve traffic safety on neighborhood streets and reduce the incidence and severity of accidents.

External: Bellevue School District, King County, the Cities of Redmond, Kirkland, Issaquah and Newcastle

Collaboration

This proposal would reduce opportunities for public involvement through NTCP Phase II as Traffic Committees would no longer be formed, which assist staff on the development of traffic calming plans. Extensive public involvement would continue through NTCP Phase I's education programs and Residential Permit Parking Zone (RPZ) program.

Section 5: Budget Proposal Description

After budget deliberations, Council adopted the following changes to the Department's proposal. These changes are relected in the Executive Summary and Required Resources Section (Section 2 and 3 above) but are not reflected in the remaining sections of the proposal.

- Re-established \$215,000 per year of funding for the design and construction of physical traffic calming measures (i.e. speed humps, traffic circles, raised crosswalks) to address citizen concerns, such as excessive vehicles speeds, non-local traffic and accidents.



This proposal eliminates all capital investment funding for the Neighborhood Traffic Calming Program (NTCP) at \$450,000/yr, terminating one of the three program components – the NTCP Phase II, through which staff works with neighborhood residents in the development of projects to install physical traffic calming measures, such as speed humps, traffic circles, and raised crosswalks, in their neighborhood.

(Picture shows a raised crosswalk and curb extension installed adjacent to Somerset Elementary School to reduce speeds, shorten crossing distances and enhance pedestrian safety. Opportunities similar to this improvement would be eliminated with this proposal.)

A separate proposal for operating expenditures would fund the remaining two NTCP components:

- **Phase I**—Limited to education, signing, and pavement markings. Staff addresses concerns with respect to speeding vehicles, and pedestrian/traffic safety.
- **Residential Permit Parking Zone Program (RPZ)**—Respond to citizen concerns with spillover parking in neighborhoods from major traffic generators. **The operating proposal would implement charging residents to offset program costs.**

Section 6: Mandates and Contractual Agreements

Not Applicable

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

Citywide Purchasing Strategies:

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In the short-term this proposal provides the **best value** in meeting community needs by eliminating the Capital Investment Program (CIP) funded portion of the Neighborhood Traffic Calming Program (NTCP) that installs speed humps, traffic circles and other physical measures. Traffic concerns would be addressed where possible through less expensive traffic calming measures focusing on education, enforcement, signing and pavement markings. As locations which are experiencing severe traffic impacts cannot be effectively addressed through education and enforcement, this proposal may not provide the best value in the long-term.

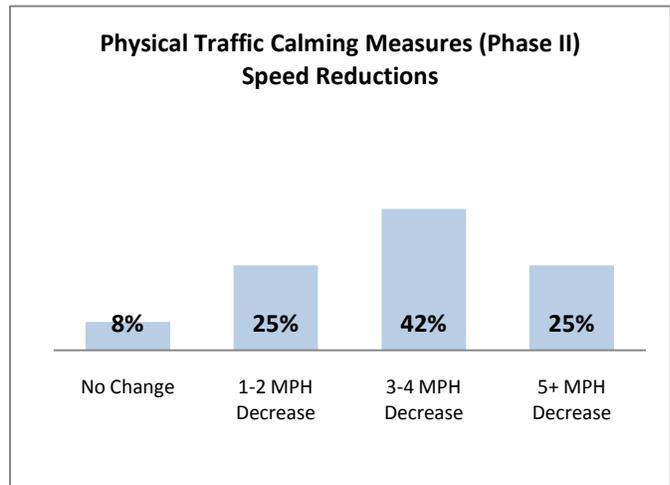
Significantly reduces opportunities for **partnerships** with such agencies as the Bellevue School District (BSD) in construction of traffic improvements to promote pedestrian safety at and near elementary school crosswalks, a goal of the Transportation Department’s Strategic Vision. Staff would continue to review BSD concerns with traffic near elementary schools. However, these concerns would need to be addressed through NTCP Phase I education programs, signing, police enforcement, or another CIP funded program.

Phase II physical traffic calming **process revolves around citizen participation**. Residents share concerns, offer suggestions, actively work with the City as part of a Traffic Committee, and demonstrate majority support for all traffic calming measures before project installation. Although public involvement would continue through NTCP Phase I’s education programs and Residential Permit Parking Zone (RPZ) program, this proposal would reduce opportunities for public involvement by approximately 70% by eliminating the Phase II process.

Opportunities for promoting **environmental stewardship**, such as natural drainage practices through the installation of rain gardens in medians and curb extensions would be lost.

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome
IMPROVED MOBILITY

Protecting neighborhoods from negative traffic impacts is best addressed through the implementation of physical traffic calming measures. Some residents’ concerns reviewed for traffic calming measures are effectively addressed through NTCP Phase I. This proposal would not address traffic and pedestrian safety issues on those streets where the problems are the most severe and in need of physically changing the roadway environment. In a number of cases, education and enforcement is not enough to address high speeds. Cut-through traffic volumes are only effectively addressed through Phase II improvements. Opportunities for speed reductions shown in the chart at the right will be lost.



B. Factors/Purchasing strategies addressed by this proposal – for the OTHER outcome(s)
SAFE COMMUNITIES

Through the Operating proposal to fund NTCP Phase I, staff partner with Police to show **visible enforcement** efforts on residential roadways. Phase I education programs also **promote and influence responsible driving behavior**. Although public involvement opportunities will be dramatically reduced through this proposal’s elimination of physical traffic calming measures, **the community would continue to be engaged and encouraged to volunteer** through Phase I education programs, such as Neighborhood Speed Watch (residents

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borrow a radar unit and record speeds) and placement of the Radar Dolly (portable radar sign that displays a drivers speed).

QUALITY NEIGHBORHOODS

Eliminating the design and construction of Phase II physical traffic calming measures **reduces opportunities for residents to band together as a community** in the pursuit of traffic calming solutions to neighborhood safety concerns. It also **limits opportunities for building projects that enhance neighborhood character** through Phase II traffic calming elements, such as entry treatments, landscaped medians, and gateways. However, staff would continue to work with the community and involve them in education programs through Phase I of the NTCP and the RPZ program, which would be funded through a separate Operating proposal. In addition, NTCP Phase I would continue to **provide accident prevention and traffic safety education to neighborhood residents**.

C. Short- and long-term benefits of this proposal:

- Reduces yearly CIP expenditures by \$450,000 and staffing resources by 1.6 FTE's for project management
- In order to achieve these cost savings, the following opportunities will be eliminated:
 - addressing residents' complaints regarding severe traffic and pedestrian safety concerns not addressable through other programs.
 - installing speed humps, which are associated with a 60% reduction in the odds of injury or death from being struck by a vehicle for children living on or near streets where speed humps would be installed.
 - installing physical traffic calming measures that encourage residents to walk and bike instead of driving by reducing vehicle speeds and cut-through traffic volumes in neighborhoods.
 - reducing potential liability should an accident occur in a location that would otherwise qualify for physical traffic calming measures.
 - honoring commitments made to residents in sub-area plans, such as Bel-Red, regarding the mitigation of traffic impacts to neighborhoods from future development.

D. Performance metrics/benchmarks and targets for this proposal:

- None. This proposal eliminates all work through the Neighborhood Traffic Calming Program Phase II, the planning, design, and construction of physical traffic calming measures.

E. Describe why the level of service being proposed is the appropriate level:

The partner proposal addresses citizen concerns with respect to speeding vehicles and pedestrian/traffic safety by providing staff resources needed to encourage responsible driving with education and signing and pavement markings. This proposal will not meet the needs of citizens where traffic impacts are the most severe, where installation of physical measures are needed. However, in these fiscally challenging times, this may be a trade-off the City is willing to accept.

Section 8: Provide Description of Supporting Revenue

None. This proposal eliminates opportunities to provide matching funds for grant applications, and to partner with other programs and other agencies in order to conserve resources.

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all—

This proposal has no funding for capital expenditures.

1. **Customer Impact:** The community has come to expect a high level of customer service in responding to traffic concerns in neighborhoods. Unless this proposal is funded at a higher level, residents will need to rely solely on enforcement and education efforts for speeding concerns. These efforts are ineffective at addressing the most critical traffic and pedestrian safety issues, as well as at reducing cut-through traffic. Eliminating Phase II will remove opportunities to serve residents most impacted by traffic speeds and volumes.



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2. **Investment/Costs already incurred:** Investments in physical traffic calming measures have been made throughout the City with an average of 3-4 traffic calming projects installed each year since the NTCP was established in 1985.

B. Consequence of funding at a lower level:

This proposal terminates one of the Transportation Department's most requested services by eliminating all CIP funding for NTCP Phase II. Additional reductions are not mathematically possible.



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Section 1: Proposal Descriptors

Proposal Title: Major Safety Improvements - Accident Reduction Program		Proposal Number: 130.78NA
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Mark Poch, x6137		One-Time/On-Going: On-Going
Fund: CIP	Attachments: No	Enter CIP Plan #: PW-R-46
List Parent/Dependent Proposal(s):		

Section 2: Executive Summary

This proposal provides funding for roadway safety improvements, and is the main funding source for the city's award winning Accident Reduction Program. Program projects have resulted in an annual cost savings to the public of \$2.8 million, with a cumulative cost savings of \$35 million.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru 2010	2011	2012	2013	2014	2015	2016	2017
Costs	\$2,541,620	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
2011-2017 Total		\$700,000						
CIP M&O		TBD						
Supporting Revenue								
		\$0	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/27/2010 - TFS		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

Cost savings - are obtained in the form of reduced cost of traffic accidents to the public. Project grants have also resulted in more than \$800,000 in cost savings to the program.

Innovation - the program itself is innovative as follows:

- Only city in Washington to have a dedicated Accident Reduction Program despite the tremendous need and benefit to cost
- Results are closely tracked and reported in terms of the calculable cost savings to the public for increased accountability
- Innovative projects solutions, including:
 - Pioneering use of u-turns to replace property access where accident producing left turns were eliminated (now accepted and used widely in the Puget Sound area)
 - Use of LED flashing signs and Leading Pedestrian Interval (LPI) to reduce pedestrian crossing injuries
 - Restriping of roads from 4 lanes with no turn or bike lanes to 3 lanes/bike lanes/center turn lane for improved safety and ped/bike accommodations (numerous examples in Bellevue).

Partnership and Collaboration – The Police Dept. provides the C.A.R.E. (Corridor Accident Reduction Enforcement) program that often targets enforcement in location identified in the Accident Reduction Program.

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Section 5: Budget Proposal Description

This proposal provides funding for roadway safety improvements, and is the main funding source for the city's award winning Accident Reduction Program. Program projects have resulted in an annual cost savings to the public of \$2.8 million, with a cumulative cost savings of \$35 million. Program projects are identified through the aforementioned Accident Reduction Program, as well as through roadway deficiency analysis and response to citizen identified concerns.

The City of Bellevue's Accident Reduction Program is a dedicated, proactive, and consistently applied program to reduce public accident costs to those that travel in Bellevue. The program's main objective is to implement projects at identified accident locations where solutions will have 1) measurable accident cost savings to the public, 2) acceptable system impacts, and 3) reasonable cost.

Program projects are identified by conducting an annual accident study throughout the city. The accident study identifies the intersections and corridors with the highest accident rates. These locations are then assigned to traffic engineers to determine if appropriate countermeasures could address the accident concern. Projects are also identified by investigating citizen concerns received by the city. Since program inception in 1990, 65 individual projects have been implemented at intersections and within corridors, resulting in a public traffic accident cost savings of \$2.8 million annually. This annual cost savings continues to grow as more projects are added, and cumulative public cost savings within the program totals \$35 million.

In 2003, the City of Bellevue received one of thirteen National Highway Safety Awards. Bellevue was one of only two cities to earn an award, and was selected from over 130 nominations. The primary criteria for this award included innovation and stewardship, which also reflect Bellevue's core values.

Summary:

- Main funding source for Accident Reduction Program projects
- Program saves public \$2.8 million annually in reduced traffic accident costs, with a cumulative savings of \$35 million since program inception in 1990
- Program has reduced overall citywide accident occurrence by approximately 10%.
- Capital funding at \$100,000 per year
- Main staff is 5% of a senior engineer in Signal Operations and Engineering
- Typical improvements include road channelization, school speed zone installations, guardrail, signal and signing improvements, roadside hazard removal, and street lighting improvements
- Program also funds consultant or in-house design work and design studies for improvement projects
- Program often funds safety projects that may not be included in the Accident Reduction Program

Section 6: Mandates and Contractual Agreements

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

CITYWIDE PURCHASING STRATEGIES –

This proposal provides a best value in meeting community needs and cost savings that are "right sized" by producing huge cost savings and pain/suffering reduction for a very small relative investment. It leverages collaboration (Police CARE program), is innovative and creative (Bellevue pioneered accident reduction and



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innovative project solutions), and is considered a best practice. Fewer traffic accidents and injuries, and a reputation for safety enhances Bellevue's image.

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

IMPROVED MOBILITY

Existing and Future Infrastructure – This proposal funds the capital needs of the Accident Reduction Program, and by doing so, includes safe infrastructure design for all users. Because Accident Reduction Program projects make excellent grant candidates as evidenced by past grants totaling \$800,000, this proposal leverages partnerships and maximizes opportunities.

Traffic Flow – This proposal provides the capital needed to implement Accident Reduction Program projects that provide measurable accident reduction results and cost savings, and thus prevents accidents that impact vehicles, pedestrians, and/or cyclists.

Built Environment – By increasing the safety and reliability of the transportation system, this proposal supports the economic vitality of the city.

B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

Safe Community/Prevention – This proposal prevents traffic accidents. In doing so, a safe environment with safe design and traffic safety inspection are provided for.

C. Short- and long-term benefits of this proposal:

The Accident Reduction Program has three main benefits:

Reduced traffic accident cost to the public – Per the National Safety Council, the calculable costs of traffic accidents include property damage, medical expenses, wage and productivity losses, administrative expenses, and employer costs. The average cost of an injury accident is \$63,500, and \$8,300 for accidents involving only property damage. Thus far, this program is saving the public \$2.8 million annually and \$35 million cumulative, with a reduction in overall accident occurrence citywide of approximately 10%.

Reduced pain and suffering – Although not included in the reported cost savings, reducing the pain and suffering from traffic accidents is a huge benefit to the public that has value. How much value? If you were told you would be in a traffic accident that would result in a compound fracture of your leg, you would be willing to write a check to keep that from happening? The amount you put on that check is the value of reduced pain and suffering.

Liability reduction – by providing a program to study accident trends and address accident locations when warranted, the city can 1) address the highest accident locations before concerns arise, and 2) legally demonstrate proactive management of the safety of the roadway system.

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D. Performance metrics/benchmarks and targets for this proposal:

Item	2000 (benchmark)	2011 (target)	2012 (target)
• Annual cost savings to the public in reduced accident costs	\$1.2 million	\$2.9 million	\$3.0 million
• Cumulative cost savings from Accident Reduction Program projects	\$7 million	\$38 million	\$41 million
• # of intersections with collision rate > 1.0 accidents per million entering vehicles	12	11	10
• # of corridors with collision rate > 8.0 accidents per million vehicle miles	16	15	14

E. Describe why the level of service being proposed is the appropriate level:

Based on previous years, funding level in this program is appropriate to provide the capital needed to continue the Accident Reduction Program.

Section 8: Provide a Description of Supporting Revenue

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all:

1. Legal: Increased tort liability exposure. By providing a program to study accident trends and address accident locations when practical, the city can address many traffic related injuries before concerns arise, and demonstrate proactive management of roadway safety.
2. Customer Impact: Citizen will get into more traffic accidents, experience more pain and suffering from increased injuries, and not receive the calculable cost savings of reduced traffic accidents.
3. Investment/Costs already incurred: The city and its grant partners have invested \$3.3 million into program projects thus far.
4. Other:

B. Consequence of funding at a lower level:

Fewer accident reduction projects would be implemented, resulting in reduced public benefit, increased pain and suffering, and increased tort liability exposure.



Traffic accidents are the main safety concern with surface transportation, but surprisingly few agencies establish programs to target accident reduction. This proposal allows the city to continue its award winning traffic accident reduction efforts.



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Section 1: Proposal Descriptors

Proposal Title: ITS Master Plan Implementation Program		Proposal Number: 130.82NA
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Mark Poch, x6137		One-Time/On-Going: One-Time
Fund: CIP	Attachments: Yes	Enter CIP Plan #: PW-R-156
List Parent/Dependent Proposal(s):		

Section 2: Executive Summary

This program will begin funding implementation of the city's Intelligent Transportation Systems (ITS) Master Plan, and will also continue funding Traffic Safety Technologies projects (as a cost savings measure, the Traffic Safety Technologies Program PW-R-136 will be eliminated). This proposal is a key strategy in how Bellevue will provide future mobility through better roadway management.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru 2010	2011	2012	2013	2014	2015	2016	2017
Costs	\$0	\$37,500	\$387,500	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
2011-2017 Total		\$2,425,000						
CIP M&O		TBD						
Supporting Revenue								
		\$0	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/3/2010 - TFS		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

Cost Savings - This proposal allows for the elimination of the Traffic Safety Technologies program, PW-R-136, saving \$50,000 annually. Other cost savings are possible through ITS project implementation.

Innovation- Traditional approaches to transportation improvements have focused on roadway widening for added traffic capacity. Employment of Intelligent Transportation System strategies allow agencies to provide systematic improvements to the transportation system that focus on better efficiency (e.g. running the traffic signal system more efficiently) and providing more information to motorists and the agency. This innovative approach allows the transportation system to be managed in a way that promotes more informed decision making by the traveling public, multi-modal transportation options, and better utilization of the transportation system already in place.

Partnerships/Collaboration - ITS project implementation will involve partnerships/collaboration with developers, Metro KC, Sound Transit, Redmond, WSDOT, and private businesses.

Section 5: Budget Proposal Description

This program will begin funding implementation of the city's Intelligent Transportation Systems (ITS) Master Plan, and will also continue funding Traffic Safety Technologies projects (as a cost savings measure, the Traffic Safety Technologies Program PW-R-136 will be eliminated). This proposal is a key strategy in how Bellevue will



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provide future mobility through better roadway management, and will provide the capital necessary to implement ITS projects each year. Candidate projects will be selected via an informed process, which will likely involve engaging Council. Projects available for consideration are included on the attachment.

This proposal is a key strategy in transitioning from a transportation system focused on the drive alone trip, to a strategy that focuses on actively managing the transportation system to systematically improve traffic capacity, enhance and promote multi-modal transportation and safety, effectively address emergency management and events, and provide improved motorist information for better transportation decision making by users. This proposal also includes community safety technologies such as stationary radar signs that have proven effective at reducing vehicle speeds and addressing citizen concerns.

Section 6: Mandates and Contractual Agreements

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

CITYWIDE PURCHASING STRATEGIES - This proposal *provides for gains in efficiency* (systematic ITS improvements to the transportation system), *leverages collaboration and partnerships* (communication system partnership with ITD, Rapid Ride partnership with Metro), is *innovative* in transportation management (only city in WA with state of the art traffic adaptive signal system, 1st WA city with municipal Real Time Traffic Map, dedicated ITS program), and *promotes environmental stewardship* (multi-modal transportation enhancements, LED traffic and pedestrian signals, decrease vehicle delays/emissions, future street light energy management).

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

IMPROVED MOBILITY - Existing & Future Infrastructure – this proposal enhances a *current investment* (traffic signal computer system) by advancing the replacement of the current obsolete system with a state of the art SCATS Traffic Adaptive system. This proposal is also a key strategy in *accommodating future demand*, not by building new or widening existing roadways, but by getting more capacity through systematic capacity increases achieved by enhanced operations, and increased motorist information for better trip route/time decision making. Because the city operates and maintains 21 WSDOT traffic signals, this investment also *increases the benefits of WSDOT investments*. Our current signal system does not have multi-modal capabilities, and investing in the new signal system addresses this concern, thus this investment provides *multi-modal infrastructure* and *leverages partnerships* (e.g. King Co Rapid Ride, Sound Transit LRT at grade in Bel-Red).

Traffic Flow - by systematically improving traffic flow by decreasing delays at traffic signals, this investment *increases the efficiency of the system* and *reduces accidents* through decreased vehicle stops and pedestrian delays. Because ITS projects such as traffic cameras, video clips of intersections on the web, and the Real Time Traffic Map provide motorist information about current conditions, the *predictability of travel times* is increased with this proposal, both on a typical day and during *event response* (i.e. snow, flood, special event, etc). Because possible ITS projects include such enhancements as Transit Signal Priority, LRT at grade integration with the signal system, and real time transit arrival and departure signs, as well as decreased pedestrian wait times, this investment *reduces single-occupant vehicle trips and promotes the use of alternate modes*.

Built Environment - Because the ITS projects included in this proposal will increase motorist information, increase ability to address emergency management, and increase the efficiency of traffic signal operations in areas where travel demand is expected to outpace roadway expansion, this investment *promotes the economic vitality of the city*. By increasing capacity and efficiency of Bellevue's arterial roadways, this investment will help promote the use of those facilities over neighborhood streets, and will help to *protect neighborhoods from*



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negative traffic impacts. The use of Traffic Safety Technologies such as stationary radar signs to reduce vehicle speeds and accident severity in neighborhoods will also help accomplish this outcome.

Travel Options - The ITS projects funded by this proposal will advance travel options by providing Transit Signal Priority, real time arrival and departure signs at bus stops, and integration of LRT at-grade operations into the signal system. This proposal will also advance route choice options by providing motorist information through the Bellevue Real Time Traffic Map as well as traffic cameras.

B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

These ITS projects support **Responsive Government** and **Healthy and Sustainable Environment** by providing solutions for enhanced motorist information, emergency management, and energy reduction.

C. Short- and long-term benefits of this proposal:

This proposal provides the capital necessary to implement projects that will provide benefits in signal operations, motorist information, multi-modal mobility, emergency management, and energy management.

Enhanced Signal Operations

- Expansion of the SCATS Traffic Adaptive signal system for better signal performance for increased capacity, better system reliability and support, and multi-modal capabilities
- Expansion of the traffic camera system to aid engineers in signal timing
- Enhancements to the Real Time Traffic Map to aid engineers in signal timing
- Variable channelization and signs that change with changing traffic conditions for improved capacity
- Center to center traffic signal management with WSDOT and Redmond

Enhanced Motorist Information

- Expansion of the traffic camera system for better motorist information including:
 - Ramp meter cams, Park and Ride cams, Snow cams, and Flood cams
- Expansion of the stationary radar sign system
- Improved website features, such as video clips of all traffic cameras
- Enhancements to the Real Time Traffic Map
- Parking management systems to inform public where parking is available and where it is not
- Dynamic message signs at key locations in Bellevue and Real Time Schedule signs at transit stops

Enhanced Multi-Modal Mobility

- Expansion of the fiber optic/broadband communication system
- Leading pedestrian intervals (LPI) for pedestrian safety at traffic signals
- Transit Signal Priority system expansion to selected bus routes and real time arrival/departure signs
- Integration of Light Rail Transit (LRT) into signalized intersections in Bel-Red area

Enhanced Emergency Management

- Expansion of the traffic camera system for better motorist information (snow and flood cams)
- Flood monitoring systems to better manage flood events
- Roadway weather stations to better manage winter road maintenance
- WiFi system expansion and VoIP at traffic signals for better emergency management communications

Enhanced Energy Management and Other Benefits

- Street Light management systems that allows lights to be turned on/off or dimmed by time of night
- Variable speed limits on arterial roadways and around schools, and Automated traffic counts

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The Federal Highway Administration provides information on the benefits of ITS projects on their ITS Benefits Database. The attachment highlights some studies that demonstrate these benefits.

D. Performance metrics/benchmarks and targets for this proposal:

- The new SCATS Traffic Adaptive signal system will have 86 signals by 2012 (subject to PW-R-155 proposal). By 2016, the objective is to have **155 signalized intersections on the system**.
- The Real Time Traffic Map currently gets approximately 9000 web visits per month, second only to the Bellevue Home Page. By 2017, with expansions and enhancements to the Real Time Traffic Map and Traffic Cameras through this proposal, the objective is to have at least **15,000 web visits**.
- Bellevue currently has 43 traffic cameras. By 2017, the objective is to have **70**.
- Bellevue currently has transit signal priority at 1 intersection. By 2013, the objective is to have **transit signal priority at 12 intersections** with ready capability for expansion.
- Bellevue currently only has still pictures from traffic cameras on the Bellevue Website. By 2017, the objective is to have **video clips of at least 50% of all traffic cameras**.
- Bellevue currently has no street light management system. By 2017, the objective is to have a system in place that would allow for on/off and **dimming control of street lights along 10 corridors**.
- Bellevue currently has no dynamic message signs. By 2017, the objective is to have **four dynamic message signs at key locations** (such as NE 8th Street entering Downtown) in Bellevue.
- Bellevue currently has no real time transit arrival or departure signs. By 2013, with partnership with King Co Metro, the objective is to have these signs at **all stations along the Bel-Red Rapid Ride Route**.
- Bellevue currently has no roadway flood monitoring or roadway weather stations. By 2017, the objective is to have **four roadway flood monitoring stations and 2 roadway weather stations**.
- Bellevue currently has no arterial variable speed limits, and variable speed limits at only four elementary schools. By 2017, the objective is to have **one variable roadway speed limit and variable speed limits at all elementary school speed zones**.

E. Describe why the level of service being proposed is the appropriate level:

Per Section 7D above, there are many projects to advance in order to accomplish the short and long term benefits of the program. Funding at \$400,000 annually will provide the capital needed to accomplish these projects. In addition, Traffic Safety Technologies projects will be combined into this proposal without transferring the \$50,000 annual funding for overall cost savings.

Section 8: Provide a Description of Supporting Revenue

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all:

1. Legal:
2. Customer Impact: The public would not benefit from improved signal system reliability, ability to support multi-modal mobility, increased motorist information, and enhanced emergency management.
3. Investment/Costs already incurred: \$2.5 million invested in new traffic adaptive signal system. The value of existing ITS systems already in place is in the multi-millions of dollars.
4. Other: Catastrophic failure of the existing signal system is a significant concern. This investment helps ensure the basic public service of providing traffic signal coordination on city arterials.

B. Consequence of funding at a lower level:

Fewer projects resulting in less benefit to the public.



2011-2012 Budget Proposal

Section 1: Proposal Descriptors

Proposal Title: W/B-56 Pedestrian Access Improvements		Proposal Number: 130.84NA
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Kevin O’Neill, x4064		One-Time/On-Going: On-Going
Fund: CIP	Attachments: Yes	Enter CIP Plan #: PW-W/B-56
List Parent/Dependent Proposal(s):		

Section 2: Executive Summary

This proposal will maintain funding for the Pedestrian Access Improvements Program (CIP PW-W/B-56) to build small, high value projects that implement the Pedestrian and Bicycle Transportation Plan. These projects enhance pedestrian and bicycle connections within neighborhoods and to schools, parks, shopping and transit – improving mobility, safety and health for everyone and protecting the environment. Program funds leverage grants, and enable partnerships with other City programs and the development community to construct larger scale projects.

Section 3: Required Resources

CIP	Projected Spending Thru	2011	2012	2013	2014	2015	2016	2017
Expenditure	2010							
Costs	\$5,659,651	\$855,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
2011-2017 Total		\$3,255,000						
CIP M&O		\$14,730	\$15,040	\$15,386	\$15,755	\$16,149	\$16,552	
Supporting Revenue		\$454,000	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

Partnership and collaboration opportunities that exist with the W/B-56 Program result in cost savings and innovations. Combining funding from other City programs creates the ability to build projects that make longer non-motorized connections. For instance, the Street Overlay Program (CIP PW-M-1) is a cost-saving Program partner as sidewalks can sometimes be added to street overlay paving projects at a lower cost (\$200 to \$300 per linear foot) than stand-alone sidewalk projects that typically range from \$300 and \$500 per linear foot. W/B-56 Program funds can be used in association with private development projects to extend a sidewalk beyond a development site to provide useful sidewalk connection rather than an isolated segment. There are also opportunities to partner with schools and agencies, and to leverage state and federal grants to build projects significantly beyond the capacity of program funds.



2011-2012 Budget Proposal

W/B-56 incorporates new strategies to protect the environment while implementing the Pedestrian and Bicycle Transportation Plan. Recent examples include a porous concrete sidewalk on Northup Way and a pervious asphalt multi-purpose path in Factoria to reduce stormwater runoff; and rubber sidewalk panels on NE 10th Street to provide a smooth walkway while preserving tree roots.

Section 5: Budget Proposal Description

Maintain funding for the Pedestrian Access Improvements Program (W/B-56) at the current annual allocation of \$400,000 for project design and construction.

Ongoing funding of this Program will retain the unique opportunity to build small projects that implement the Pedestrian and Bicycle Transportation Plan. Program funds improve pedestrian access to transit, schools, shopping, parks, and employment, and enhance facilities for bicyclists. Continued investments will create a more walk able, bike able and livable city.

Required resources will include additional operating budget costs for maintenance of the improvements. For currently identified improvements, additional operating costs will be approximately \$14,700 per year beginning in 2012, adjusted for inflation thereafter. Additional operating costs may also be required for future improvements on an as needed basis.

Section 6: Mandates and Contractual Agreements

W/B-56 funds are committed to the 124th Avenue SE Multi-Use Path Connection. This is a high priority project identified through the 2005 Factoria Area Transportation Study (FATS) Update and implements the Factoria Subarea Plan and the Pedestrian and Bicycle Transportation Plan. W/B-56 has leveraged two grants that were accepted by Council on January 19, 2010, providing 71 percent of the funding for this project.

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

Improved Mobility – [Existing and Future Infrastructure] The W/B-56 Program proposal builds small-scale infrastructure to provide convenient and safe non-motorized transportation connections within neighborhoods and to transit. A complete and connected sidewalk system encourages walking, especially among older and younger Bellevue residents who rely on sidewalks to get around neighborhoods and transit to get around town to work, shopping and services. W/B-56 is uniquely suited to filling the “missing links” that often keep people from walking or bicycling. In partnership with other Programs, outside agencies and as leverage for grant funding, the proposal creates opportunities to improve non-motorized mobility. W/B -56 provides a link between mobility and economic outcomes while improving the quality of neighborhoods. The proposal implements the Pedestrian and Bicycle Transportation Plan and Comprehensive Plan policy direction. These facilities advance the Environmental Stewardship Initiative (ESI) Strategic Plan, Strategy D-2 that directs the City to *support infrastructure for non-single occupancy- vehicle (non-SOV) mobility options...and to construct new pedestrian, bicycle, and trail facilities.* **[Travel Options]** Increasingly, Bellevue’s economic and residential growth will be supported by mobility options that are non-motorized and transit-oriented. Infrastructure for pedestrians and bicycles must be well integrated into both ends of the transit trip. W/B-56 supports walking and bicycling, and thus improves transit ridership, by building sidewalks and bicycle facilities that connect neighborhoods to transit.

B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

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Healthy and Sustainable Environment – **[Clean Air]** W/B-56 builds sidewalks and bicycle facilities that allow people to more easily get around without a car. Pedestrian and bicycle facilities eliminate some automobile trips and support transit use, which together help Bellevue meet its greenhouse gas (GHG) emissions target and the state benchmarks for reducing per capita vehicle miles traveled (VMT). Reducing VMT is significant because a passenger car emits about 260 grams (1 pound) of CO₂ per passenger mile traveled – compared to a transit trip that emits 100g of CO₂, and a pedestrian or bicycle trip that emits 0g of CO₂ (*Source: Transportation's Role in Reducing U.S. Greenhouse Gas Emissions, April 2010 USDOT*).

Quality Neighborhoods- **[Neighborhood Mobility]** W/B-56 reduces reliance on the auto for day-to-day activities. The Program completes sidewalks and bicycle facilities that enable residents to comfortably and safely walk and bike within their neighborhoods, and to schools, jobs, shopping, services, parks and transit. Residents frequently request sidewalk improvements, recognizing that a complete sidewalk system enhances their quality of life, and the value of their homes. According to the Urban Land Institute, sidewalks support household economic vitality in ways that range from reducing household transportation costs to enhancing property values.

C. Short- and long-term benefits of this proposal:

Short term: W/B-56 builds projects that are responsive to neighborhood priorities and implement the Pedestrian and Bicycle Transportation Plan. W/B-56 creates the immediate benefits of a sidewalk segment or trail that improves access in a neighborhood or a bicycle rack that provides secure bicycle parking.

Long term: These projects incrementally move the City toward a complete and connected non-motorized transportation system that will provide increasingly significant mobility, environmental and public health benefits.

D. Performance metrics/benchmarks and targets for this proposal:

Performance metrics for W/B-56 relate primarily to implementing the Pedestrian and Bicycle Transportation Plan. Pedestrian system completion is measured in terms of linear feet of sidewalk installed and the percentage of the planned sidewalk system complete. Similar metrics are used for the bicycle system – for which W/B-56 provides essential components such as bike racks and wayfinding.

- W/B-56 stand-alone or with partners will build 500 to 700 feet of sidewalks annually. These consist of high value/gap-filling projects that help complete the system.
- These sidewalks will add to the citywide inventory of sidewalks – which is about 60% complete (the planned system is 90 miles). Completion rates vary from 100% in Crossroads to about 40% in Newport Hills.

Note: As more precise metrics become available, W/B-56 performance will address the goals of reducing VMT and GHG. Non-motorized travel options can eliminate short vehicle trips and reduce the per capita vehicle miles traveled and greenhouse gas emissions.

E. Describe why the level of service being proposed is the appropriate level:

Funded at \$400,000 annually, W/B-56 builds small-scale sidewalk and bicycle facilities that quickly respond to community requests – whereas larger, bigger budget projects take more time to design and build.

Section 8: Provide a Description of Supporting Revenue

W/B – 56 often helps attract outside funding through grants, developer contributions, and agency partnerships. Outside funding frees up local funds for other community priorities. W/B-56 provides the local match for grants, having recently leveraged state grant funding (\$150,000) for a sidewalk on 164th Avenue NE, and nearly \$1 million in federal and state grant funds for the 124th Avenue SE Multi-Purpose Path Connection in Factoria. W/B-56 can also utilize developer contributions and partner with agencies to build longer sidewalks.

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Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all:

1. Legal: Pedestrian and bicycle transportation infrastructure helps to maintain adopted level of service standards and concurrency requirements by providing non-motorized transportation choices that reduce reliance on single occupant vehicles and help to avoid building ever wider roads to maintain mobility.
2. Customer Impact: In the 2008 Budget Survey, 86 percent of respondents agreed that the City should *“Encourage and make it more attractive for people to choose transportation alternatives”*. A consequence of not funding the proposal is that gaps in the non-motorized transportation system would remain for a longer time. Sidewalk gaps and absent bicycle infrastructure mean that fewer Bellevue residents will walk or bicycle – perpetuating reliance on automobiles and the attendant impacts on the environment and public health. Conspicuous “quick fix” projects requested by neighborhoods, recommended through long-range planning projects, or identified as high priorities in the Pedestrian and Bicycle Transportation Plan may not be built in a timely manner. Leverage would disappear for grant funding and developer/agency partnerships.
3. Investment/Costs already incurred: Most W/B-56 projects are identified, designed and built within a year, yet a few take longer. For instance, the 124th Avenue SE Multi-Purpose Path Connection is 90% designed (in-house designed using FATS and W/B-56 funds - \$125K) and \$1 million in grants for construction in 2010/2011 is leveraged with W/B-56 funds from 2010 and 2011 Program allocation. Not funding the proposal would jeopardize the City match for this grant. This project is located on WSDOT right-of-way and has taken years of negotiation to acquire needed permits.
4. Other: N/A

B. Consequence of funding at a lower level:

Less funding for the W/B-56 program would slow the rate of completion for projects in the Pedestrian and Bicycle Transportation Plan and reduce the ability to implement neighborhood priorities.



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Section 1: Proposal Descriptors

Proposal Title: M-1 Overlay Program		Proposal Number: 130.85PA
Outcome: Improved Mobility		Proposal Type: Reduction of Service
Staff Contact: Tony Cezar, x7835		One-Time/On-Going: On-Going
Fund: CIP	Attachments: No	Enter CIP Plan #: PW-M-1
List Parent/Dependent Proposal(s): Pavement Management, No. 130.85DA		

Section 2: Executive Summary

This proposal is for managing the City’s annual resurfacing (overlay) program from design to construction with a CIP program budget reduction of \$1.3 million for 2011 (20 percent reduction from the 2011 budget of \$6.5 million), and \$1.35 million for 2012 (20 percent reduction from the 2012 budget of \$6.77 million). In addition to the pavement work, the program includes the retrofiting of adjacent wheelchair curb ramps as mandated by the Americans with Disabilities Act (ADA), and the repairing of curbs/ gutters, sidewalks and adjoining bike lanes. Also, this proposal will include the Utilities’ Department pavement restoration work.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru 2010	2011	2012	2013	2014	2015	2016	2017
Costs	\$78,656,685	\$4,646,406	\$4,841,048	\$5,068,800	\$5,280,000	\$5,491,200	\$5,710,848	\$5,939,282
2011-2017 Total		\$36,977,584						
CIP M&O		N/A						
Supporting Revenue		\$0	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/3/2010 - TFS		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

There will be a \$1.3 million savings in 2011 and a \$1.35 million savings in 2012 in road resurfacing and wheelchair curb ramp retrofiting (approximately 11 to 15% of savings) for ADA compliance as a result of this proposal to reduce the CIP Overlay budget. Also, cost savings is anticipated with the collaboration between Transportation and the Utilities Departments with the inclusion of the Utilities’ pavement restoration work (as a result of their infrastructure upgrade program under city streets) with the Overlay program to take advantage of the favorable asphalt prices Transportation historically experiences in its contracts (\$ 60/ton (Transportation) vs.\$100/ton (Utilities)) . Utilities may realize a \$40/ton savings in paving material costs.

Section 5: Budget Proposal Description

The street candidate list generated from the Pavement Management program, **Proposal No. 130.85DA** will be used by the Pavement Manager and Project Engineer for the engineering and design phase of the Overlay program. Engineering plans and contract specifications will be prepared in-house for the upcoming year resurfacing work. Included in the design process is the retrofiting of wheel chair curb ramps, and replacing of



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broken curbs/ gutters, sidewalks and the resurfacing of the adjoining bike lanes. The Overlay program is the implementation arm for the City's ADA compliance effort. All wheelchair curb ramps at street corners and crosswalks impacted by the overlay program are required to meet the standards defined under ADA. While all of the above work is currently accomplished through both the M-1 and M-3 Transportation CIP programs, this proposal combines these two programs into a single M-1 program.

The collaboration between Transportation Department and the Utilities Department to include pavement restoration work brought on by the Utilities' Department infrastructure upgrade program will be added to the Overlay program starting in 2011. Engineering, design, and construction will be done as part of the Overlay program. This is being done to take advantage of the more favorable asphalt bid prices on the Overlay contract.

Once the plans and contract specification are complete, the project is then advertised for bids. The lowest responsible bidder awarded by Council will be managed by the Transportation Inspector during construction.

Section 6: Mandates and Contractual Agreements

The Overlay program relies on the Pavement Management program, **Proposal No.130.85DA**, to determine which streets are due for maintenance work. Local agencies are mandated through federal and state statutes to have a Pavement Management System (PMS). The federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) has assigned the states responsibility for assuring that all roadways using federal funds are covered by a PMS. The Washington State Department of Transportation's (WSDOT) "A Guide for Local Agency Pavement Managers," indicates that counties and cities with populations of 22,500 or greater must model their PMS on the components described in WAC 136-320.

Public agencies are mandated to have public rights-of-way and facilities accessible to persons with disabilities through the following statutes: Section 504 of the Rehabilitation Act of 1973 (Section 504) (29 U.S.C. §794) and Title II of the Americans with Disabilities Act of 1990 (42 U.S.C. §§ 12131-12164). These laws work together to achieve this goal.

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

Existing and future infrastructure is one of the main factors in **the Improved Mobility Outcome** that fits under this proposal. **Maintaining current investments (or infrastructures) is important in optimizing efficiency and value (Purchasing Strategy).** Through a systematic analysis of pavement life cycles, the city can determine the most appropriate time to rehabilitate its pavements, what the most cost-effective method is, and how many dollars it will take to maintain its roads in optimal condition. Also, maintaining wheelchair curb ramps, sidewalks, bike lanes, and bridges are vital for people "getting around" in Bellevue. This proposal ensures sound management of resources and **efficient** business practices. It ensures the City is providing the best value in meeting community needs. **In collaboration with other agencies (King County, Redmond, Kirkland, and WSDOT) this proposal coordinates resurfacing work to maximize maintenance and construction dollars (Purchasing Strategy).**

Traffic Flow also fits under this proposal since the Overlay program was created to ensure City roads are being maintained in a timely and systematic manner **(Purchasing Strategy).**

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B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

Mobility is a key component of the **Quality Neighborhoods Outcome** that fits under this proposal. Maintaining city streets in a timely manner provides a safe access to residences, parks, schools, businesses and other destinations. **These include sidewalks and bike lanes which will provide residents with other modes of travel and also result in a healthier environment (Purchasing Strategy). A well maintained street system will enhance access to goods and services throughout Bellevue (Purchasing Strategy).**

Built Environment under Innovative, Vibrant and Caring Community Outcome fits under this proposal. The City's roadway infrastructure is integral to current and future generations being able to live well, work, and play. **Streets are being modified (travel lane reconfiguration) as needed and maintained to accommodate future growth and development (Purchasing Strategy).**

Infrastructure under Economic Growth and Competitiveness Outcome fits under this proposal. **The City is responsible along with its infrastructure partners to continue enhancing the infrastructure necessary to speed information, goods and services quickly and safely throughout the City (Purchasing Strategy). Access and Connectivity** are other sub-factors that fit under this proposal. **A well maintained roadway system including sidewalks, bike lanes, and bridges is a key component for successful access and circulation within the City's commercial and employment centers (Purchasing Strategy).**

Prevention under the **Safe Community Outcome** fits under this proposal. Residents feel safe driving when roads are well maintained. **Routine inspections and maintenance of the City's roads, sidewalks, bike lanes, and bridges will result in a safe mobile environment (Purchasing Strategy).**

C. Short- and long-term benefits of this proposal:

This proposal ensures the City is maximizing its construction dollars by resurfacing streets at the optimum stage for the least amount of cost over the long term. Taxpayers will benefit in the long term because resurfacing a road is much less expensive than a complete rebuild. In the short term, roads not on the paving schedule but requiring some kind of temporary maintenance work will be addressed by the Utilities' Maintenance Division.

In 2010, 96% of Bellevue residents that responded to the City's Performance Measures Survey indicated that city streets and roads were in "mostly good" to "good" condition. This is a good indication of the **effectiveness** of the Pavement Management program and how satisfied the residents are.

Also in comparison to other cities (73) throughout the U. S., the 2008 International City/County Management Association's (ICMA) Center for Performance Measurement Report ranks Bellevue in the top 25% for paved lane miles (Lane mile is the area of an average car lane width multiplied by one mile) assessed in satisfactory or better condition. Approximately 95% of Bellevue streets are in satisfactory or better condition. The median percentage for jurisdictions with a population of over 100,000 is 85%. This is another example of the **effectiveness** of the City's Pavement Management program.

D. Performance metrics/benchmarks and targets for this proposal:

The **Performance Measure** used for this program is **percent of Arterial and Residential roadways with ratings at or above satisfactory condition (≥ 50 for Arterial and ≥ 30 for Residential).**

The City's **target** is at least 60% of all Arterial roadways and 75% of all residential roadways be at or above satisfactory condition. This is the same Performance Measure reported in the City's Comprehensive Annual



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Financial Report. This report is compiled in compliance with the Governmental Accounting Standards Board Statement No.34. In 2009, the city met its target with 84% of arterial roads and 96% of residential roads meeting the target. The **target for 2011 and 2012 will be the same**, 60% for arterial roads and 75% for residential roads being at or above satisfactory condition.

Roads have a pavement life of around 15 to 20 years. The **optimal time for resurfacing** a street is when its rating is approaching 40 (residential) and 65 (arterial), usually around the 8th to 12th year of its life cycle (see attachment). Once ratings dip below these thresholds, anticipate repair costs to rise exponentially.

E. Describe why the level of service being proposed is the appropriate level:

Based on the performance measure data above, a high percentage of the roads are in very satisfactory condition. The budget reduction will likely reduce the ratings, but the ratings should still be above the minimum acceptable condition levels.

Section 8: Provide a Description of Supporting Revenue

N/A

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all:

1. Legal:

- Loss of opportunity for applying for federal funds on pavement maintenance work.
- Agencies found in non-compliance with ADA may be cited by the Department of Justice. This could result in as much as 20% (\$28 million) of the departments CIP budget to 20% (\$100 million) of the agency's entire CIP program being restricted to implementation of the ADA transition plan for as many years as it takes to mitigate the identified mobility barriers.
- Bridge inspection program is federally mandated; not complying would be in violation of federal law.

2. Customer Impact:

- More visible pavement problems such as potholes, cracking or rutting.
- Anticipate an increase in citizen complaints about pavement conditions.
- Pavement problems (e.g., potholes) may result in unsafe driving.

3. Investment/Costs already incurred:

- Consultant cost for pavement inventory and inspection - \$105,000
- King County Bridge Inspection cost - \$11,000

B. Consequence of funding at a lower level:

- Arterial streets cost substantially more to rebuild than residential streets; thus with a smaller budget, Transportation will place a higher priority on maintaining arterial streets
- The consequences of deferring or not doing any pavement maintenance work will increase the chances of repair costs rising exponentially (\$150,000 per lane mile for a normal 2 inch overlay vs. \$520,000 per lane mile for a total road pavement rebuild(asphalt cost only)).
- Annual resurfacing contract will be reduced by 13 lane miles in 2011 and 13.5 lane miles in 2012.
- There will be an increase of \$6 million of roads added to the current backlog of roads (\$48 million) due for maintenance work. This backlog cost will ultimately rise as these roads will further deteriorate.
- Utilities' Maintenance Division will experience an increase in pavement repair requests
- Potential damage to other systems in the road (i.e. vehicular detection , lane markers, franchise utilities)



2011-2012 Budget Proposal

Section 1: Proposal Descriptors

Proposal Title: Minor Capital – Signals and Lighting		Proposal Number: 130.86NA
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Mark Poch, x6137		One-Time/On-Going: On-Going
Fund: CIP	Attachments: No	Enter CIP Plan #: PW-M-20
List Parent/Dependent Proposal(s):		

Section 2: Executive Summary

This proposal would continue to fund traffic signal and street lighting projects that are beyond the scope of the operating budget but too small for individual CIP projects. This program allows Transportation to quickly respond on an ongoing basis to citizen requests, unfunded mandates, needed improvements, and opportunities to partner with other capital or development projects. This program has been combined with the Signal Warrant Safety (PW-I-84) program, with an overall 33% reduction in funding of both programs.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru 2010	2011	2012	2013	2014	2015	2016	2017
Costs	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
2011-2017 Total		\$1,400,000						
CIP M&O		TBD						
Supporting Revenue								
		\$0	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/26/2010 - TFS		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

As a cost savings measure, this program has been combined with the Signal Warrant Safety (PW-I-84) program, with an overall 33% reduction in funding of both programs.

Section 5: Budget Proposal Description

This proposal would continue to fund traffic signal and street lighting maintenance and improvement projects which are beyond the scope of the operating budget but too small for individual CIP projects. This program allows Transportation to quickly respond on an ongoing basis to citizen requests, unfunded mandates, needed improvements, and opportunities to partner with other capital or development projects. As an efficiency and reduction measure, this program has been combined with the Signal Warrant Safety (PW-I-84) program, with an overall 33% reduction in funding of both programs.

A key feature of this program is the ability to address emerging needs from citizens, staff, or regional projects quickly and without the need to run such relatively small but important projects through the budget process. This also allows staff to address concerns before they are escalated to management.



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Combining PW-I-84 into PW-M-20 is anticipated to result in even fewer Signal Warrant Safety projects being implemented. PW-M-20's role to fund the needs too large for the operating budget and too small for the regular CIP is far too important and must continue. PW-I-84 program projects have the option of competing in the regular CIP - with the impact that these projects won't be implemented nearly as quickly or even at all if they don't compete well.

Section 6: Mandates and Contractual Agreements

Per RCW, all cities in the state of Washington are required to follow the Manual on Uniform Traffic Control Devices (MUTCD). Also the American with Disabilities Act (ADA) Civil Rights law requires accessibility at signals.

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

CITYWIDE PURCHASING STRATEGIES – By providing resources for citizen identified needs that are beyond the scope of the operating budget but too large for the CIP, this proposal provides for *gains in efficiency*, is a *catalyst for citizen support*, and *enhances Bellevue's image* (city says yes to reasonable citizen requests like replacing worn out signs). It also *leverages partnerships* through projects (See 7C below). By funding *innovative and creative* projects such as LED street lights, this proposal *promotes environmental stewardship*.

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

IMPROVED MOBILITY

Existing & Future Infrastructure – this proposal maintains *current investments* (traffic signals and street lighting) by providing funds to maintain and improve infrastructure such as pedestrian countdown signals, mast arm street name signs, traffic signal phasing, roadway channelization and signs, and traditional and LED street lighting. This proposal also helps *accommodate future demand*, by providing spot improvements to install turn lanes, etc that can be accommodated by restriping and not major road construction. Because the city operates and maintains 21 WSDOT traffic signals, this investment also *increases the benefits of WSDOT investments* by partnering with WSDOT to improve traffic flow at those intersections. This investment provides *multi-modal infrastructure* through the installation of countdown pedestrian displays and audible pedestrian signals.

Traffic Flow - by providing spot improvements at traffic signals, this investment *increases the efficiency of the system*. The traffic cameras installed within this program help motorists assess traffic conditions from the Bellevue website, helping to increase the *predictability of travel times*. Cameras also help with *event response* (i.e. snow, flood, special event, etc), as engineers are able to assess traffic conditions from the Traffic Management Center and Transportation EOC at City Hall.

Built Environment - Because this program helps to fund maintenance of equipment that is too large for the operating budget, the City is able to maintain a "new" look which in turn *promotes the economic vitality of the city* (e.g. replacement of worn out street name signs at signals). By implementing spot improvement projects to increase capacity on arterial roadways, this investment will help promote the use of those facilities over neighborhood streets, and will help to *protect neighborhoods from negative traffic impacts*.

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B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

The first community value statement in **Responsive Government** is “A city government that listens to them, keeps them informed, and seeks their involvement”. This program allows Transportation to say “YES” to citizens that call with good ideas on how to improve traffic operations or provide needed maintenance.

C. Short- and long-term benefits of this proposal:

Minor capital needs are addressed on a consistent and on-going basis. This benefits the public in both the short and long term because their concerns, as well as the never ending list of needs encountered by the staff running a traffic signal and street lighting system, are taken care of. Management benefits because relatively simple requests from the public (i.e. replace worn out street name signs or restripe a road for a needed turn lane) get addressed without escalation. In the long term, the city experiences fewer tort liability cases as mandates from the MUTCD and ADA are addressed. The unseen and unnoticed projects that separate well run cities from the rest get accomplished (a road is not torn up twice because M-2 funded a needed piece of underground conduit when a developer was trenching the road).

D. Performance metrics/benchmarks and targets for this proposal:

Due to the versatility of this program, there is no one metric used to measure success. Main determinants of success include the number of projects implemented, number of projects that partner with others to affect efficiencies or eliminate future or duplicate work, number of projects that address mandates, and the ability to implement projects before they escalate to management. Recent projects implemented in the program highlight versatility, partnerships, and responsiveness:

Project: Factoria Blvd and SE 36th St Congestion Reduction

Effectiveness: This project restriped the I-90 off ramp to Factoria to decrease congestion and backups to the I-90 mainline. The concern was passed through a state senator, and was addressed at staff level without escalation to management. The city partnered with WSDOT to complete the design.

Project: 142nd Bridge over I-90 Lighting

Effectiveness: Sound Transit provided some street lighting improvements on the 142nd bridge over I-90 when the direct access ramp was installed. Bellevue leveraged ST's improvements so pedestrians had complete illumination between the direct access ramp and the Eastgate Park and Ride.

Project: ADA pedestrian pushbuttons

Effectiveness: This project partnered with the Overlay program to relocate pedestrian pushbuttons to ADA compliant locations at the same time curb ramps were replaced. This avoided the need to tear up intersection corners at a later time to provide ADA compliance.

Project: Digital Wave Radar Detection on 6th HOV Ramp

Effectiveness: This project used new detection technology to enable the NE 6th St direct access ramp to have a green signal longer at 112th for HOV and bus vehicles.

Project: 118th LED Streetlights

Effectiveness: This project allowed the city to test the effectiveness of the emerging LED streetlight technology without having to wait to plan and program a capital project through the CIP. The project resulted in a 60% energy savings in the corridor.

Project: NE 8th and Bellevue Way variable turn restriction



2011-2012 Budget Proposal

Effectiveness: This project uses a LED variable message sign to restrict the east to south right turn when traffic exiting Bellevue Square is heavy (the restriction increases traffic flow). This was previously accomplished manually by Bellevue Square staff, but often they would forget to take the sign down, causing angry citizens to call the CMO. This project allowed this effective traffic control strategy to continue with concerns addressed.

Project: **Street Name Mast Arm signs**

Effectiveness: The city upgraded its street name signing at traffic signals back in the early 1990's. Those signs are now faded and peeling, and are no longer MUTCD compliant. This project allows the systematic replacement of the worse signs throughout the city.

Project: **164th Fiber conduit**

Effectiveness: The project partnered with the Overlay program to install a needed missing link of underground conduit while the road was torn up for pavement repair. This allowed the city to avoid trenching the road after the overlay.

This proposal would allow the city to continue to implement timely and effective projects such as these in 2011 and 2012. In the 2007 Performance Measures Survey, the percentage of respondents that consider traffic improvements to be high quality has trended upward, while the percentage considering traffic improvements to be low quality has trended downward. The PW-M-20 program plays a significant part in this result.

E. Describe why the level of service being proposed is the appropriate level:

\$150,000 of the \$200,000 annual funding will be dedicated to PW-M-20, with the remaining \$50,000 toward former PW-I-84 related projects. Most or all PW-I-84 projects will be forwarded to the CIP as standalone projects, affecting their timeline. With this understanding, this proposal if funded appropriately.

Section 8: Provide a Description of Supporting Revenue

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all:

1. Legal: Increased liability from reduced MUTCD and ADA compliance.
2. Customer Impact: The PW-M-20 program is the main way Transportation is able to tell citizens "yes we will do that" with respect to reasonable requests for improvements and maintenance.
3. Investment/Costs already incurred: The value of the signal system is estimated to be \$60 million. Efforts to maintain and leverage this investment would cease and remain incomplete.
4. Other:

B. Consequence of funding at a lower level:

Fewer projects would be completed, reducing the effectiveness of the program. The consequences of combining the PW-I-84 program into PW-M-20 at a lower funding level has been outlined in Sections 5 and 7.



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Section 1: Proposal Descriptors

Proposal Title: M-2 Minor Capital – Traffic Operations		Proposal Number: 130.90NA
Outcome: Improved Mobility		Proposal Type: Existing Service
Staff Contact: Hillary Stibbard, x4357		One-Time/On-Going: On-Going
Fund: CIP	Attachments: No	Enter CIP Plan #: PW-M-2
List Parent/Dependent Proposal(s):		

Section 2: Executive Summary

This proposal is to continue to fund transportation improvement projects, including roadway channelization and signage upgrades and pedestrian and bicycle channelization upgrades, which are beyond the scope of the operating budget, but are too small to compete as individual projects in the Capital Improvement Program. This program also develops and implements small scale School Zone Safety Enhancement projects. In addition, this proposal allows Transportation to quickly respond on an ongoing basis to citizen requests, unfunded mandates, needed improvements, and opportunities to partner with other capital or development projects.

Section 3: Required Resources

CIP Expenditure	Projected Spending Thru 2010	2011	2012	2013	2014	2015	2016	2017
Costs	\$7,475,760	\$200,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
2011-2017 Total		\$1,100,000						
CIP M&O		TBD						
Supporting Revenue		\$50,000	\$0	\$0	\$0	\$0	\$0	\$0
LTE/FTE								
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/27/2010 - TFS		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Section 4: Cost Savings/Innovation/Partnerships/Collaboration

Cost Savings: This program can provide matching funds for competitive grant applications, and successful funding of applications is an opportunity to implement improvements at a relatively low cost to the City. This can free up funding for other transportation improvements.

Innovation: This program allows staff to install pilot projects using new innovative traffic control devices in a relatively quick manner. Staff can then evaluate the effectiveness of new devices and determine if they could be implemented elsewhere in the City.

Partnerships: This program can take advantage of opportunities to partner with other capital funds such as Neighborhood Traffic Calming, Pedestrian Access Improvements, and the Neighborhood Enhancement Program to provide efficiencies in construction and management of individual project elements. Partnering with other programs can also provide a multi-pronged solution to address the needs and concerns of the stakeholders.

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Section 5: Budget Proposal Description

This proposal is to continue to fund transportation improvement projects, such as channelization and signing upgrades and installation for roadways, pedestrian and bicycle facilities, which are beyond the scope of the operating budget but are too small to compete on their own as CIP projects. This program also allows Transportation to quickly respond on an ongoing basis to citizen requests, unfunded mandates, needed improvements, and opportunities to partner with other capital or development projects.

Projects that will continue to be implemented with this program include new crosswalk installations, enhancements to existing crosswalks such as flashing beacons, upgrading crosswalk signs to new federally mandated standards, channelization improvements, roadway safety and access management improvements, bicycle route signing, and providing local match funds for grant applications when appropriate. Also continued will be pilot projects using new innovative traffic control devices, allowing Transportation to evaluate the effectiveness of the new devices and determine if they can be implemented elsewhere in the City.

This proposal also includes installing low cost school zone safety projects, such as flashing beacons that notify motorists of 20 mph school zones. Such projects can be eligible for Safe School grants, and any required match funds would be provided through this proposal. These projects do not include the more extensive traffic calming measures used in school zones, such as raised crosswalks, installed by the Neighborhood Traffic Calming Program.

A key feature of this program is the ability to address emerging needs from citizens, staff, or other agencies quickly and without the need to run these relatively small projects through the formal budget process. Another important feature is the ability for staff to address issues and concerns before they are escalated to upper management.

Section 6: Mandates and Contractual Agreements

This program funds compliance efforts for the regularly updated mandates of the Manual on Uniform Traffic Control Devices (MUTCD). Mandates include updated size, color, location, or message for traffic signing, and updated size, pattern or emblem for channelization.

Section 7: Proposal Justification/Evidence (may insert charts, graphs, tables, etc.)

CITYWIDE PURCHASING STRATEGIES

This proposal provides the *best value in meeting community needs* and *ensures that services are "right-sized"* by providing a flexible and readily available means to address requests and needs of citizens in a relatively prompt manner.

A. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome:

IMPROVED MOBILITY

Existing and Future Infrastructure: This proposal *maintains current investments* by providing funds to maintain and improve infrastructure such as crosswalks, signs, curbing, and pavement markings. Recent examples include replacing all stop signs in the City to comply with new reflectivity standards, and the upgrade of school crosswalk signs to comply with new size, format, and layout standards. This proposal also provides *safe infrastructure design for all users* through projects installing and improving *multi-modal infrastructure* such as curbing for roadway safety and access management, signing and marking of bicycle lanes, and crosswalk installation and improvements.



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Traffic Flow: Projects and spot improvements implemented by this proposal are designed to increase safety and help prevent accidents that impact vehicles, pedestrians and/or cyclists, such as installation of “sharrow” pavement markings on a bicycle route, and improved delineation of travel lanes in curves on neighborhood streets.

Built Environment: This proposal works in conjunction with Neighborhood Services to provide improvements that protect neighborhoods from negative traffic impacts and improve safety for all users of the transportation system.

B. Factors/Purchasing strategies addressed by this proposal - for the OTHER outcome(s):

QUALITY NEIGHBORHOODS

Mobility: This proposal can partner with others such as Neighborhood Services and Pedestrian Access Improvements to construct projects that provide safe and convenient connectivity within neighborhoods.

Schools: Transportation partners with the Bellevue School District to provide an education program that teaches traffic safety basics to school children (the PedBee program), and to identify and implement School Zone Safety Enhancement projects. Currently, a grant application has been submitted for School Zone Enhancements at Newport Heights Elementary School (award of the grants will occur in 2011).

RESPONSIVE GOVERNMENT

Exceptional Service: This proposal can ensure services are provided when needed and/or expected; and processes are timely as it provides a flexible and readily available means to address emerging needs from citizens, staff, or other agencies quickly and without the need to run these relatively small projects through the formal budget process.

C. Short- and long-term benefits of this proposal:

This proposal addresses minor capital needs on a consistent and on-going basis. This benefits users of the transportation system in both the short-term and the long-term because smaller-scale issues and concerns are taken care of quickly, and do not develop into larger-scale issues that can require both more time and more funding to address. In the long-term, the City experiences a reduction in liability as safety issues are identified and addressed, as well as fewer tort liability cases as mandates from the Manual on Traffic Control Devices (MUTCD) and the Americans with Disabilities Accessibility Guidelines (ADAAG) are addressed.

D. Performance metrics/benchmarks and targets for this proposal:

Due to the versatility of this program, there is no one metric used to measure success. Key determinants of success include the number of projects implemented, the number of projects that partner with others to attain efficiencies or eliminate future or duplicate work, the number of projects that address mandates, and the ability to implement projects before the issues are escalated to management. Recent projects implemented in this program highlight versatility, partnerships, and responsiveness:

Project: Main Street and 162nd Avenue Channelization Improvements

Effectiveness: This spot improvement was a partnership between Neighborhood Services, Traffic Operations/Engineering, and Streets Maintenance (Utilities) to improve the safety of a wide neighborhood intersection through new channelization and sign relocation.

Project: SE 22nd Street Mid-block Crossing

Effectiveness: Traffic Operations/Engineering collaborated with Neighborhood Services and Capital Projects to design a mid-block crosswalk at Robinswood Park. The crosswalk will be built in conjunction with a CIP project, which provides an efficiency in construction cost.

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E. Describe why the level of service being proposed is the appropriate level:

The funding in PW-M-2 should remain at \$150,000 per year, given the program needs and the broad scope and versatility of the program. Current staffing levels in Traffic Engineering are able to design and implement the projects funded at this level. Low cost School Zone Safety Enhancement projects are funded through this proposal, and a Safe Walk to School grant application has been submitted (award determination in 2011) for a School Zone Safety Enhancement project near Newport Heights Elementary.

Section 8: Provide a Description of Supporting Revenue

This program can provide matching funds for competitive grant applications, and successful funding of applications is an opportunity to implement improvements at a relatively low cost to the City and can free up funding to apply to other transportation improvements. Currently, a grant application has been submitted for School Zone Enhancements at Newport Heights Elementary School (award of the grants will occur in 2011).

Section 9: Consequences of Not Funding the Proposal

A. Consequence of not funding the proposal at all

1. **Legal:** Mandates from standards such as the Manual on Uniform Control Devices (MUTCD) and the Americans with Disabilities Act (ADA) would not be addressed. Liability would increase as safety improvements are identified but deferred until funding is found.
2. **Customer Impact:** Dissatisfaction with lack of timeliness in addressing minor requests, potential increase in risk of accidents as safety improvements are not implemented.
3. **Investment/Costs already incurred:** Currently this program is funding a systematic upgrade of crosswalk signs to meet new MUTCD standards. This effort would be shelved and the upgrade would be incomplete.
4. **Other:** Opportunities to partner with other programs and projects to save costs would be lost.

B. Consequence of funding at a lower level:

This program funds six to ten projects per year, depending on scope and budget size. A reduction in funding would reduce the number of projects able to be designed and built in proportion to the cut.