

City of
Bellevue



Transportation Commission Study Session

DATE: November 2, 2017

TO: Chair Bishop and Members of the Transportation Commission

FROM: Chris Long, Traffic Engineering Manager, 425-452-6013, clong@bellevuewa.gov
Olivia Aikala, Transportation Engineer, 425-452-4491, oaikala@bellevuewa.gov

SUBJECT: Neighborhood Congestion Reduction Levy Program, Project Scoring

DIRECTION REQUESTED *SELECT AN OPTION FROM CHOICES BELOW WITH AN X.*

- Action
- Discussion/Direction
- Information

At the October 26th, 2017 Transportation Commission meeting, staff presented a description of the Neighborhood Congestion Reduction Levy program and a summary of the evaluation criteria proposed for prioritizing projects for future funding years. The presentation to Commission also reviewed the status of project work underway funded by 2017 Neighborhood Congestion Reduction Levy program budget. At the November 9th, 2017 meeting, staff will present the recommended scoring system to be used for prioritizing projects and will provide a sample list of the projects being considered.

BACKGROUND

The agenda memorandum for the Levy provided for the October 26th, 2017 meeting included an attachment that described the Neighborhood Congestion Reduction Levy program and the proposed evaluation criteria. This same attachment is included in this document as Attachment A.

INFORMATION

Project Scoring

The Commission suggested no revisions to the evaluation criteria proposed at the October 26th, 2017 Commission meeting. Staff has applied a point system to that criteria for Commission to review. The scoring is applied in a two-tier approach. The first tier will be used to prioritize projects that will be evaluated for potential capacity improvements and development of a project concept. Most of the projects on the current project list have not been thoroughly evaluated through other programs. Staff anticipates selecting up to 10 projects for analysis. The exact number will be dependent on the scope of each analysis.

In Tier 1, projects are scored out of 100 points with 80% of the points based on the existing level-of-service and 20% on the potential for safety improvement. The Tier 1 process starts with a “pass/fail” criteria, intending to screen projects based on their dependency on development or outside agencies. For example, a project that requires redevelopment on a corner to create space for a new right turn project would be screened out. As would a project that is part of a long-term WSDOT plan to improve congestion near a freeway interchange.

Following the completion of traffic studies, Tier 2 will be used to determine which projects are funded for final design. At the end of Tier 1, all studied projects will have a recommended improvement that includes analysis of the impact on all modes of travel, a conceptual design and preliminary cost estimate. The Tier 2 scoring process will use this information to prioritize projects selected for final design.

In Tier 2, projects are scored out of 100 points as well with 70% of the points based on the existing need and estimated benefit for intersection or corridor vehicle level of service. The remaining 30% is distributed evenly amongst six other criteria described in Attachment A. The complete prioritization framework is provided in Attachment B. Attachment B includes the detailed scoring table used for the vehicle and corridor vehicle level-of-service.

As noted in Attachment A, projects that move forward to final design or construction will not be selected solely based on their score. The scoring will be used to identify projects with the greatest need and benefit. Staff will factor this into a final recommendation of projects to be funded in each biennium.

Project Identification

The current list of candidate projects was generated from the following sources:

- **Public Outreach:** During the outreach process for the Levy prior to the vote, attendees at each event were asked to identify locations on a map where they experience congestion while traveling to or from their neighborhood.
- **Transportation Facility Plan (TFP):** Projects that are flagged for capacity improvement in the TFP are included on the project list.

- Comprehensive Transportation Project List: This list is a compilation of all projects proposed through planning studies throughout the City. Projects that were identified to address current traffic congestion were added to the Neighborhood Congestion Reduction Levy project list.
- Concurrency: Projects flagged in the 2017 Concurrency report as exceeding the local Mobility Management Area (MMA) volume-to-capacity ratio.
- Staff Input: Staff throughout Transportation were surveyed to collect issues they have identified while working on projects in Bellevue.

A sample list of the types of projects that would and would not be considered for Neighborhood Congestion Reduction Levy funding will be provided at the Commission meeting.

RECOMMENDATION

Staff proposes the scoring system provided in Attachment B move forward for use in prioritizing projects. A Commission recommendation of the proposed allocation of Neighborhood Congestion Reduction Levy budget will be sought at the January 11th, 2018 meeting.

NEXT STEPS

Staff will return a prioritized project list and a recommended allocation of budget for 2018 at the January 11th, 2018 Transportation Commission meeting.

ATTACHMENTS

- Attachment A: Neighborhood Congestion Reduction Levy Program Description (from [October 26th, 2017 Levy Agenda Memorandum](#)).
- Attachment B: Prioritization Framework

Neighborhood Congestion Reduction Levy Program

Program Summary

Prepared 10/19/17

Program Description:

(Per Ordinance 6304) Projects to address and ease congestion for motor vehicles within, near and/or connecting neighborhoods to services to improve access and mobility.

This program should target small to medium sized projects that can improve capacity and reduce congestion on streets leading to or from residential neighborhoods to help ease traffic congestion and improve mobility for residents of Bellevue. This budget can be used for traffic studies and outreach to evaluate potential locations for improvement; preliminary and final design for the improvement; and construction for any project that helps benefit neighborhood congestion. The optimal use of funds is to leverage the levy dollars as a match to a grant that could fully fund design and construction. The allocated dollars in this program are not enough to build many of the possible congestion reduction projects that would be considered.

Program Budget:

\$2-million annually.

This program is the only one of the six levy categories that has a fixed annual budget. Council's desire is to see \$2-million dedicated to this program on an annual basis.

Program Team:

- Program Manager, Chris Long: Chris is responsible for overseeing this program, which includes: identifying projects; working with Commission to prioritize projects; meeting with the Levy team to discuss progress on active projects; planning for budget allocation in future years; and monitoring progress of active projects being led by other team members.
- Design Project Manager, Jun An: Jun will be the primary project manager for design projects developed through this program. Jun will also be involved in overseeing development of conceptual designs prepared through traffic studies.
- Traffic Engineering Manager: Management of traffic operational studies will be determined on a project-by-project basis.
- Levy Managers, Marie Jensen and John Murphy: The co-levy managers will support the program manager in his tasks, this includes reviewing and approving any changes proposed to the two-year work plan described in the "Identifying Projects" section below.

Identifying Projects:

The projects to be addressed by this program will be defined in a two-year work plan. A set of criteria has been developed to facilitate the ranking of potential projects and help guide project selection. Projects will not necessarily be selected solely based on their exact ranking. Staff will use the project evaluation criteria to create the ranked project list and then will work with the Transportation Commission to determine the exact projects that will move forward in the two-year work plan. This includes potentially allocating funds for construction.

Attachment A: Neighborhood Congestion Reduction Levy Program Description

Prior to beginning the ranking process, the list of potential projects will be evaluated for completeness. New congestion issues identified by staff or residents will be continually added to a running project list.

Project work will be compiled into a flexible two-year work plan that will be regularly reviewed to account for budget changes, priority changes and availability of grants.

In the initial years of this program, it is anticipated that new project ideas with no previous formal analysis will need to be studied for further diagnosis and the development of project alternatives. New projects will go through the Tier 1 evaluation described below. Tier 1 will be used to determine which projects are analyzed first, with criteria focused on the need at the specified location.

Following the completion of traffic studies for Tier 1 projects, Tier 2 will be used to select projects to move forward to final design. The evaluation criteria in Tier 2 is focused on the benefits of the proposed improvements.

Tier 1: Evaluation Prior to Traffic Study

- A. Project Dependency on Development or WSDOT, Pass/Fail: The goal of this program is to provide near-term solutions to neighborhood congestion issues. Projects that are dependent on redevelopment to create the needed roadway width for an improvement or are related to a future WSDOT led project would not be considered a near-term solution. The exception would be if there is an active WSDOT or development project that could be supported to completely address a congestion issue through financial partnership.
- B. Existing Vehicle Level-of-Service (LOS): The existing motor vehicle LOS will be evaluated using similar criteria as established for the Transportation Facilities Plan (TFP), with the exception that projects will initially only be evaluated for "Need" and not both "Need" and "Benefit." The Benefit component will be factored in through the Tier 2 evaluation.
- C. Safety: The Traffic Engineering Division has recently adopted a new process for ranking safety improvement projects in its annual collision analysis program that uses AASHTO Highway Safety Manual predictive methods. The predictive approach involves quantitative analysis that considers collision, roadway, and traffic volume data. These methods help to identify roadway locations with the greatest potential for safety improvement. It is recommended that Safety be a secondary factor in the ranking of projects since the focus of this program is congestion reduction.

Tier 2: Evaluation Prior to Final Design

- A. Proposed Vehicle LOS: The "Need" versus "Benefit" scoring used in the TFP project evaluation will be used as the primary scoring criteria for determining the ranking of projects to be considered for final design.
- B. Potential for Grant Funding: Project located on corridors identified on WSDOT's functional classification map would receive additional points because this is a typical criterion for federal grant programs.
- C. Complexity of Implementation: Projects that are not complicated by excessive cost, significant ROW impact, environmental impact or other potential project risks would receive additional points.
- D. Multi-Modal LOS for Pedestrians: Projects that improve the pedestrian MMLOS would receive additional points.

Attachment A: Neighborhood Congestion Reduction Levy Program Description

- E. Multi-Modal LOS for Bicycles: Projects that improve the bicycle MMLoS would receive additional points.
- F. Transit Impact: Projects that benefit transit speed and reliability will receive additional points. The number of points will depend on whether the benefit is to frequent transit service or infrequent routes.
- G. Safety: The AASHTO Highway Safety Manual predictive methods will be used to determine if a proposed project will improve the safety performance.

ATTACHMENT B. PRIORITIZATION FRAMEWORK



STEP ONE: EVALUATION PRIOR TO TRAFFIC STUDY

Initial list ranks candidates for need, irrespective of cost.

(0) Pass/Fail - <i>does addressing congestion require redevelopment or a future outside-led project?</i>	
Pass	Candidates whose congestion mitigation can be implemented without significant outside involvement
Fail	Mitigating congestion would require redevelopment or a future outside-led project

80% (1) Existing Vehicle LOS - <i>for intersections, LOS will be used; for corridors, MMLOS travel times will be used.</i>	
See attached DRAFT 2017 Transportation Facilities Plan (TFP) Intersection Table (only 'need') and MMLOS Corridor Table (only 'need')	
80	Intersections: LOS E,F; Corridors: above the recommended corridor LOS
40	Intersections: LOS D; Corridors: at the recommended corridor LOS
0	Intersections: LOS A, B, C; Corridors: below the recommended corridor LOS

20% (2) Safety - <i>does the candidate location exhibit an existing safety need?</i>	
20	The location exhibits a quantifiable potential for safety improvement based on existing conditions
0	The location does not exhibit a potential for safety improvement based on existing conditions

STEP TWO: EVALUATION PRIOR TO FINAL DESIGN

Tier 2 list ranks candidates to select those which will move on to final design

70% (1) Proposed Vehicle LOS - <i>for intersections, LOS will be used; for corridors, MMLOS travel times will be used.</i>	
70 pts. Max	See attached DRAFT 2017 Transportation Facilities Plan (TFP) Intersection Table and MMLOS table.

30% (2) Advantage Points - <i>projects that would receive additional points for the following.</i>	
5 points each (30 pts max)	Potential for grant funding - <i>project location is classified as an arterial on WSDOT's Arterial Classification Map</i>
	Ease of implementation - <i>no significant ROW, environmental or cost implication</i>
	Multimodal LOS for pedestrians - <i>project improves pedestrian MMLOS</i>
	Multimodal LOS for bicycles - <i>project improves bicycle MMLOS</i>
	Transit Impact - <i>if the project benefits a frequent transit route (5 pts), if a non-frequent transit route (2 pts)</i>
	Safety - <i>project reduces the number of expected crashes</i>

Tier 1. Draft 2017 Transportation Facilities Plan (TFP) Intersection Table (only 'need')

INTERSECTION PROJECTS (all evaluations based on V/C ratios)

LOS Letter references have been added to help the narrative

NEEDS		
Future severity without mitigation		
A, B, C < 0.80 Better than 15% of Both favorable conditions apply	D btw 0.80 & 0.90 Btw 15% & 5% of Either/or conditions apply	E, F ≥ 0.90 Within 5%, at or exceeds Both unfavorable conditions apply
Low	Medium	High
0	40	80

Source: 2017 Transportation Facilities Plan (Modified)

Tier 1. MMLOS Corridor Table (only 'need')

CORRIDOR PROJECTS

Evaluation based on multimodal level-of-service guidelines

NEEDS		
Low	Medium	High
The corridor LOS is below the recommended	The corridor LOS is within the recommended	The corridor LOS is currently above the recommended
0	40	80

Tier 2. Draft 2017 Transportation Facilities Plan (TFP) Intersection Table

INTERSECTION PROJECTS (all evaluations based on V/C ratios)				
LOS Letter references have be added to help the narrative				
		NEEDS Future severity without mitigation		
		A, B, C	D	E, F
		< 0.80 Better than 15% of Both favorable conditions apply	btw 0.80 & 0.90 Btw 15% & 5% of Either/or conditions apply	>= 0.90 Within 5%, at or exceeds Both unfavorable conditions apply
		Low	Medium	High
BENEFITS Magnitude of Improvement	Intersection Improvement Reduces v/c by	LOS Current V/C MMA AW Std		
	No V/C change	Low	0 Maintains LOS A, B, C	10 Maintains LOS D
	btw 0 & 0.10	Medium	15 Possible Letter change e.g. C to B	50 Possible Letter change e.g. E to D
	>0.10	High	15 Good proj but little need e.g. C to B	70 Excellent project e.g. E to D

Source: 2017 Transportation Facilities Plan (Modified)

Tier 2. MMLOS Corridor Table

CORRIDOR PROJECTS

Evaluation based on multimodal level-of-service guidelines

BENEFITS Change in Typical Urban Travel Time Ratio		NEEDS		
		Low	Medium	High
		The corridor LOS is below the recommended	The corridor LOS is within the recommended	The corridor LOS is currently above the recommended
No change	Low	0	10	15
Btw 0.10-0.20	Medium	10	25	50
>0.20	High	15	50	70

vehicle LOS

Level-of-Service

The Transportation Element recognized that “For the foreseeable future, the private auto will carry the majority of daily trips within Bellevue.” Therefore it is important to serve this travel demand and to meet vehicle LOS standards. A roadway network that operates efficiently is one element of the balanced transportation system. Vehicle LOS metrics, standards and guidelines for intersections and travel corridors summarized in Table 2 will meet GMA and Traffic Standards Code requirements for concurrency management and will assist in evaluating long range planning alternatives.

Table 2. Vehicle Level-of-Service Summary

Vehicle LOS	Metric	Where Applied	How to Apply
Concurrency	Volume/Capacity	System Intersections MMA	Standard per Traffic Standards Code
Long Range Planning	Delay	System Intersections MMA	Guideline
Corridor Analysis	% of typical urban travel time	Arterial Corridors & Segments	Guideline

Table 3. Vehicle Corridor Level-of-Service

LOS	Typical Urban Travel Time/Travel Speed on Corridors Based on 40% of the Posted Speed Limit
	Less than 90% of Typical Urban Travel Time Faster than 1.1 times the Typical Urban Travel Speed
	90-110% of Typical Urban Travel Time Between 1.1 and .9 times the Typical Urban Travel Speed
	110-155% of Typical Urban Travel Time Between .9 and .75 times the Typical Urban Travel Speed
	155-200% of Typical Urban Travel Time Between .75 and .5 times the Typical Urban Travel Speed
	More than 200% of Typical Urban Travel Time Slower than .5 times the Typical Urban Travel Speed

