

Transportation Commission Briefing January 23, 2014



- 1. Spring 2013 Transit Usage
- 2. Transit Signal Priority
- 3. Downtown Bellevue HOV Analysis
- 4. Assessing Benefits
- 5. Metro Service Reduction Proposal
- 6. 142nd Place SE Transit Corridor

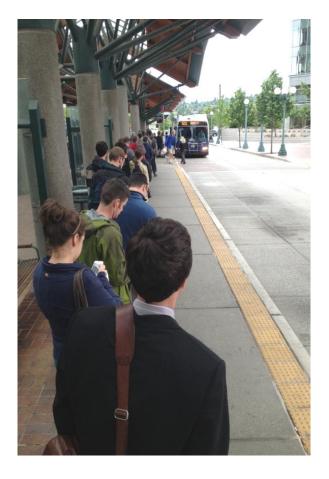


Tonight's Agenda



Spring 2013 Transit Usage Analysis





"Develop measures of effectiveness to evaluate transit investments and to track plan progress."

- Bellevue City Council, Project Principles (Approved July 9, 2012)



Spring 2013 Transit Usage

Service Availability

Measure service availability on Bellevue's Frequent Transit Network corridors

Transit Usage

Measure transit usage in Bellevue's Mobility Management Areas.

Person Throughput

Measure person throughput by mode on Bellevue's Frequent Transit Network corridors.

Travel Time Measure travel time savings resulting from speed and reliability improvements on Bellevue's Frequent Transit Network corridors.



TMP Measures of Effectiveness

Service Availability

Measure service availability on Bellevue's Frequent Transit Network corridors

Transit Usage

Measure transit usage in Bellevue's Mobility Management Areas.

Person Throughput

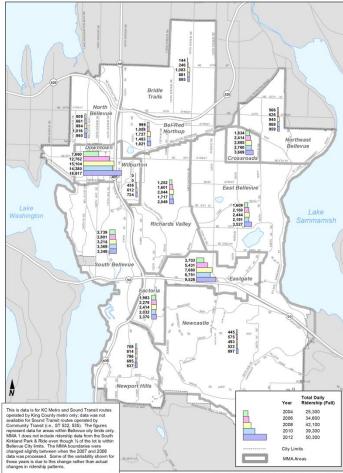
Measure person throughput by mode on Bellevue's Frequent Transit Network corridors.

Travel Time

Measure travel time savings resulting from speed and reliability improvements on Bellevue's Frequent Transit Network corridors.



TMP Measures of Effectiveness



Average Transit Weekday Usage (ons/offs)

MMA	Fall 2003	Fall 2012	% Change
Downtown	7,346	18,817	156%
Eastgate	2,197	9,528	334%
Crossroads	1,706	3,669	115%
East Bellevue	1,695	3,527	108%
South Bellevue	2,908	3,349	15%
<u>Factoria</u>	1,724	2,370	37%
Richards Valley	1,301	2,049	58%
Bel-Red Northup	883	1,821	106%
Northeast Bellevue	532	959	80%
Newcastle	384	897	134%
Bridle Trails	62	895	1,337%
North Bellevue	512	860	68%
Newport Hills	670	837	25%
Wilburton	-	724	N/A
Total	21,920	50,302	129%

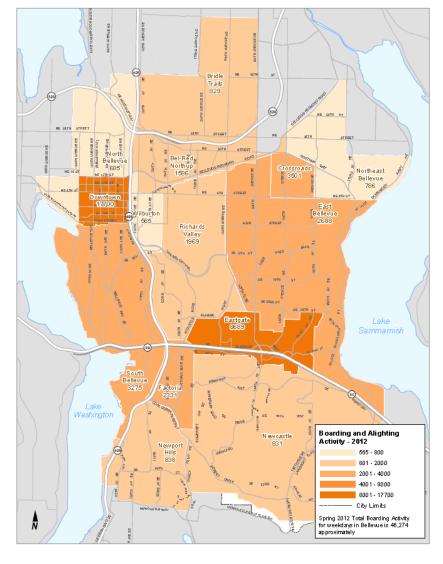
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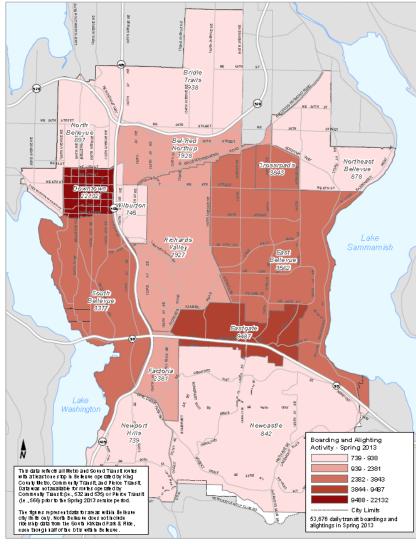
Transit Usage (Fall 2003 – 2012)

Spring 2012 Citywide = 46,274

Spring 2013 Citywide = 53,676



Bellevue Transit Master Plan



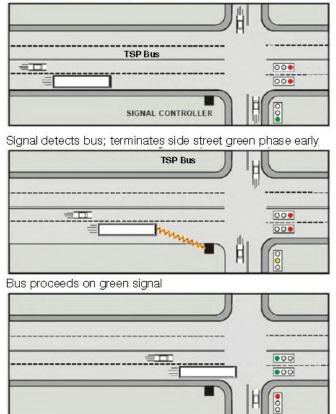
Transit Usage (Spring 2012-2013)



Transit Signal Priority



Bus approaches red signal

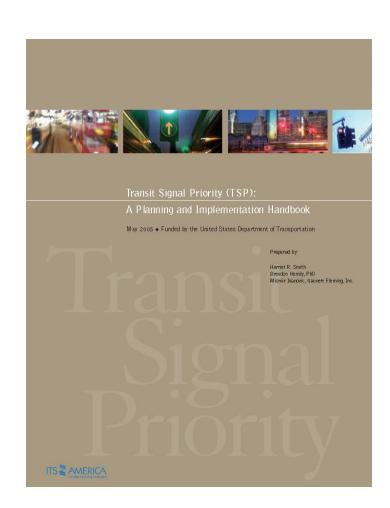


Transit Signal Priority (TSP) facilitates the movement of transit vehicles through traffic signal controlled intersections.

Typically, a transit vehicle sends a signal to a traffic signal controller, which will give the transit vehicle priority by extending the green phase, shortening the red phase/early green, and/or providing for a queue jump.



Transit Signal Priority

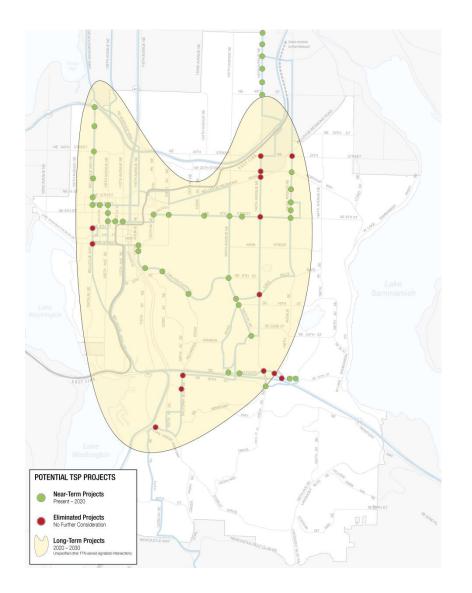


Bellevue Transit

aster Plan

- In Tacoma, WA the combination of TSP and signal optimization reduced transit signal delay about 40% in two corridors.
- TriMet (Portland, OR) was able to avoid adding one more bus by using TSP and experienced a 10% improvement in travel time and up to a 19% reduction in travel time variability. Due to increased reliability,
- In Chicago PACE buses realized an average of 15% reduction (3 minutes) in running time. Actual running time reductions varied from 7 to 20% depending on the time of day.
- With the implementation of TSP and through more efficient run cutting, Pace (Chicago) was able to realize a savings of one weekday bus while maintaining the same frequency of service.
- Los Angeles experienced up to 25% reduction in bus travel times with TSP.

TSP Benefits for Operators



- Near-Term Projects (Present 2020): Signalized intersections served by Route 271 and the RapidRide B Line that have not been eliminated by early feasibility screening.
- Eliminated Projects:

Intersections eliminated from further consideration base on known signal and/or roadway limitations.

 Long-Term Projects (2020 – 2030): Unspecified number of remaining signalized intersections served by 2030 FTN routes.

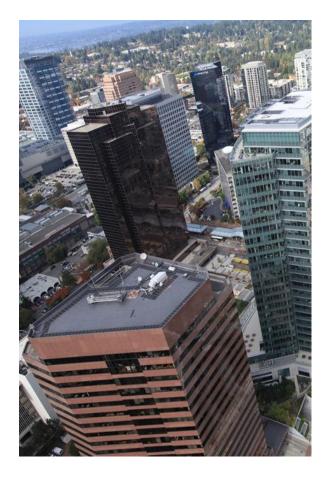


TSP Project List



Downtown Bellevue HOV Analysis

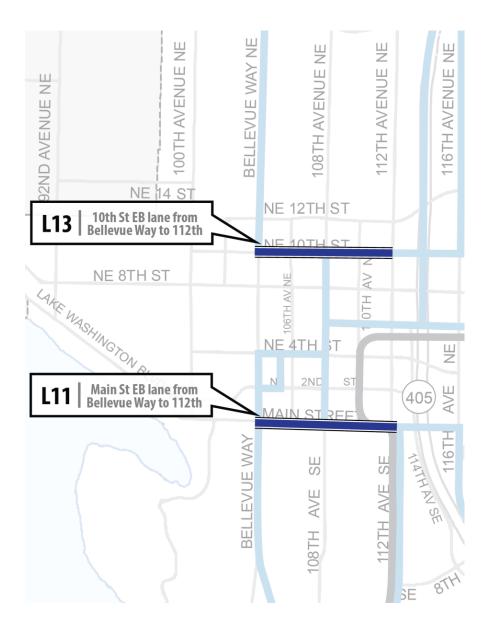


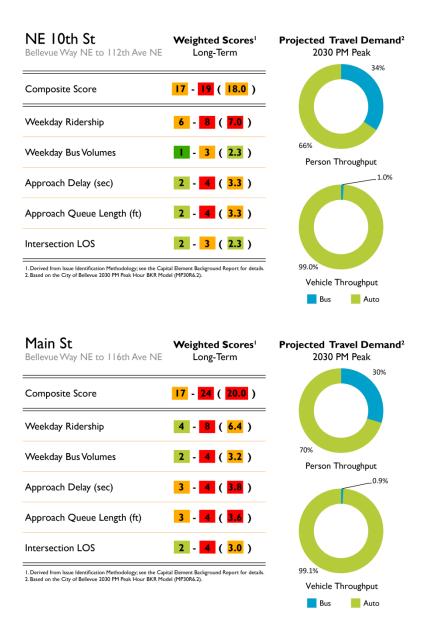


"Support planned growth and development in Bellevue with a bold transit vision that encourages long-term ridership growth."

- Bellevue City Council, Project Principles (Approved July 9, 2012)







Bellevue Transit Master Plan

NE 10th & Main St HOV Lanes



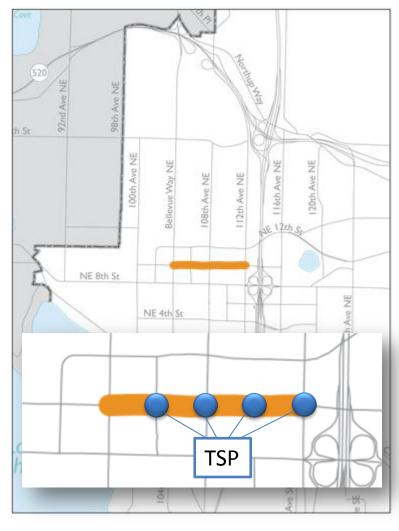


NE 10th Street





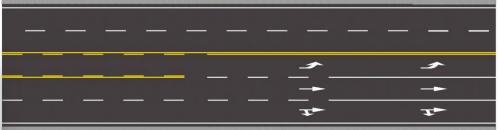
NE 10th Street



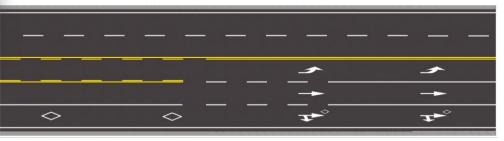
Proposed Improvement - NE 10th Street Corridor

- Eastbound HOV lane, between Bellevue Way NE and 112th Avenue NE
- Transit Signal Priority (TSP), between Bellevue Way NE and 112th Avenue NE

Existing Configuration:



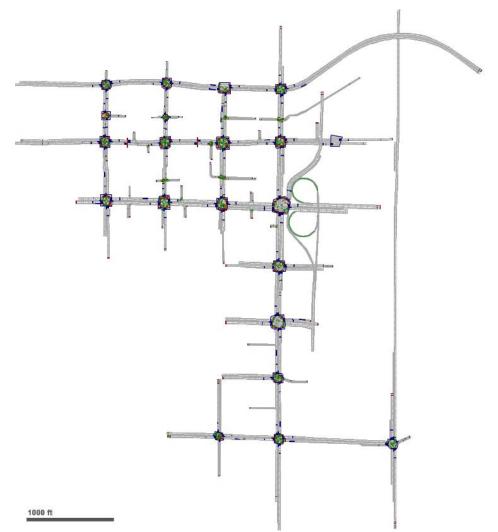
Future with Improvement:



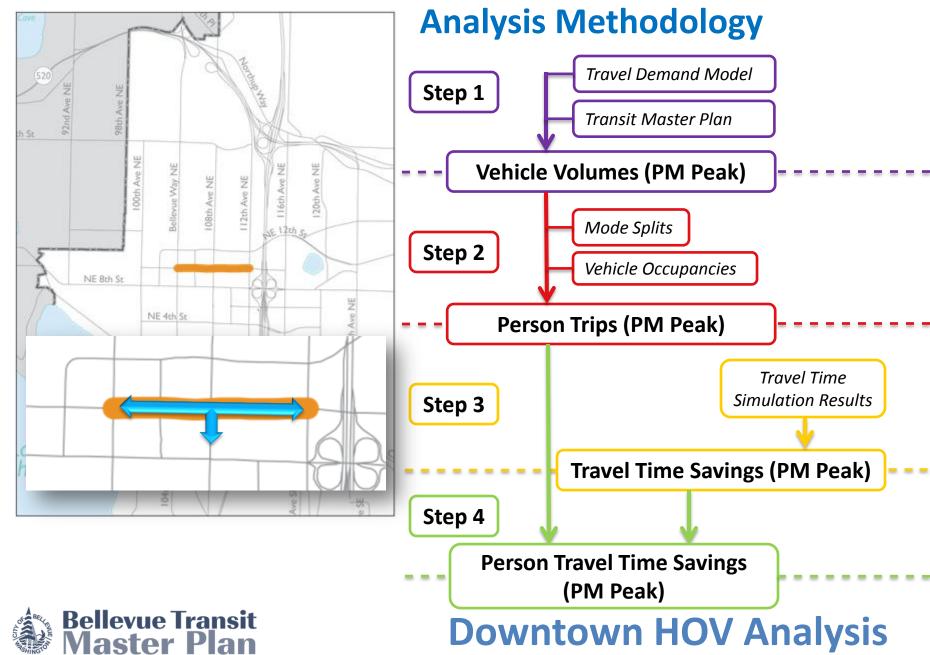


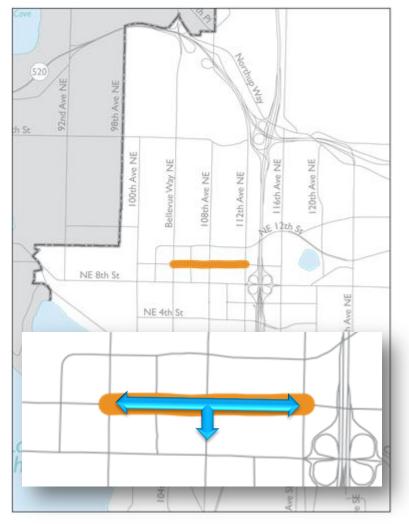


Simulation Model Network

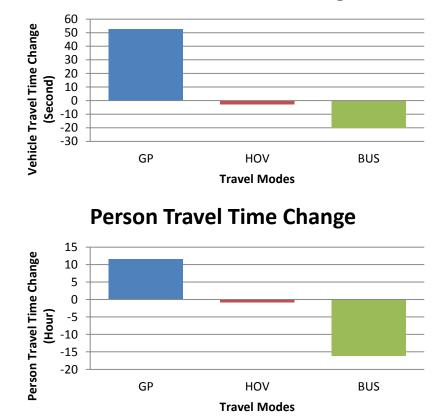






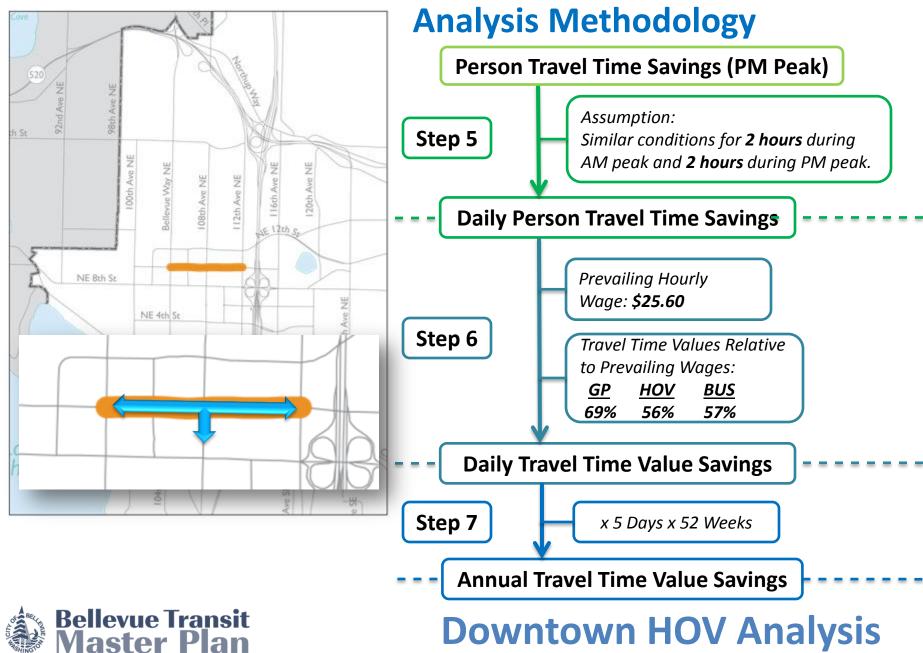


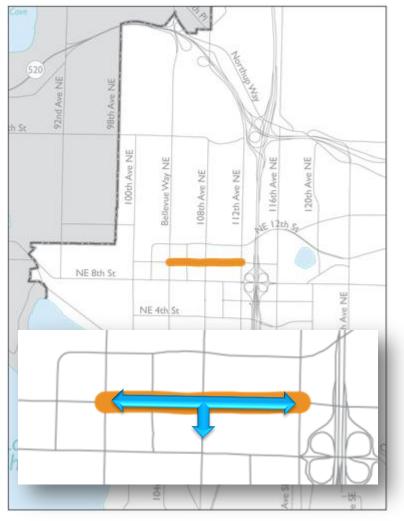
• Focus Area: NE 10th Street and 108th Avenue NE



Vehicle Travel Time Change

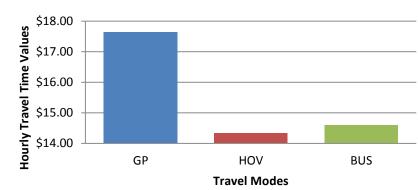






Change in Travel Time Value

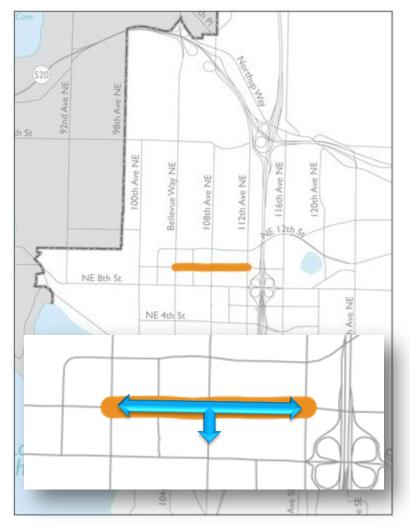
- Focus Area: NE 10th Street and 108th Avenue NE
- PM Peak Hour Savings: \$(30.23)



Travel Time Values

Annual Travel Time Savings: \$(31,450.00)



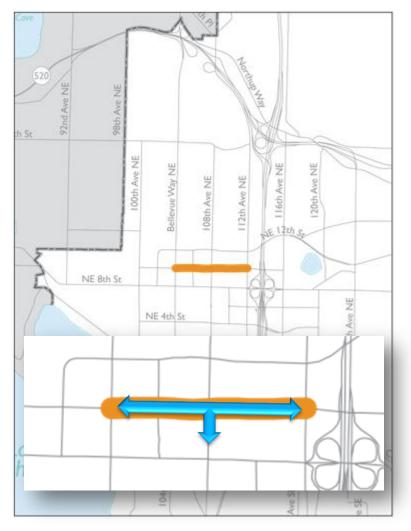


- Focus Route:
 - From: Bellevue Way NE/NE 10th Street
 - To: 112th Avenue NE/NE 10th Street



Route		le Travel Change n Second	-		n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
1	95.97	-14.71	-	10.98	-1.65	-	\$173.56 +19.7%



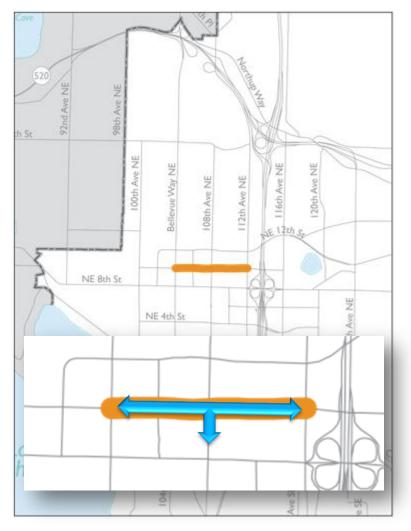


- Focus Route:
 - From: Bellevue Way NE/NE 10th Street
 - To: 108th Avenue NE/NE 8th Street



Route		le Travel Change Second			n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
2	68.32	28.38	-27.40	0.96	0.44	-5.48	\$(56.10) (-7.8%)



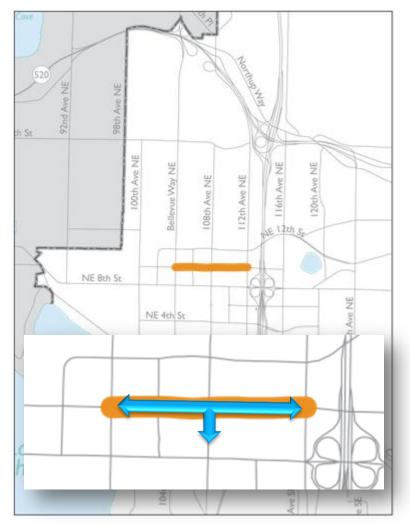


- Focus Route:
 - From: 112th Avenue NE/NE 10th Street
 - To: Bellevue Way NE/NE 10th Street



Route		le Travel Change 1 Second	-		n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
3	1.67	6.99	-	0.04	0.21	-	\$3.15 +2.1%



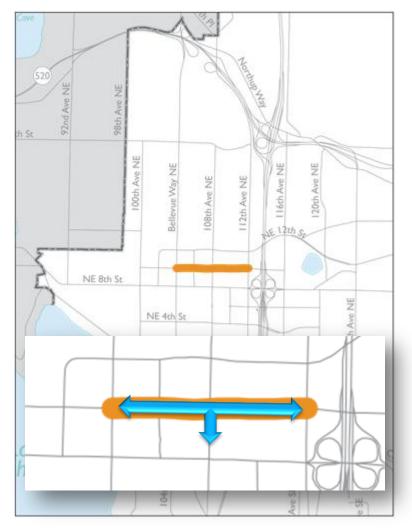


- Focus Route:
 - From: 112th Avenue NE/NE 10th Street
 - To: 108th Avenue NE/NE 8th Street



Route		le Travel Change 1 Second	-		n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
4	50.12	49.90	40.91	1.08	1.04	8.18	\$151.24 +22.7%



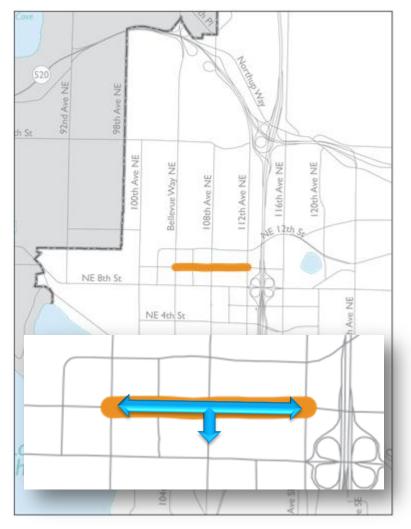


- Focus Route:
 - From: 108th Avenue NE/NE 8th Street
 - To: Bellevue Way NE/NE 10th Street



Route		le Travel Change Seconc	-		n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
5	-32.42	-9.18	-33.40	-0.36	-0.40	-6.68	\$(109.92) (-20.1%)





- Focus Route:
 - From: 108th Avenue NE/NE 8th Street
 - To: 112th Avenue NE/NE 10th Street



Route		le Travel Change 1 Second	-		n Travel Change In Hours	Travel Time Savings	
	GP	HOV	BUS	GP	HOV	BUS	(PM Peak)
6	-12.89	-16.63	-60.53	-0.47	-0.52	-12.11	\$(192.16) (-19.2%)



Assessing Transit's Speed & Reliability Benefits



Table 9Average transit and general purpose travel speedsby FTN service category before and after HOV and BAT laneimplementation.

Scenario	Avg. Speed Along FTN Corridors by Service Type (mph)						
	FX	FR	FL				
Transit							
Baseline	18	12	12				
HOV/BAT Lane Projects	19	13	13				
2030 Targets	22	15	14				
General Purpose Traffic							
Baseline	20	13	13				
HOV/BAT Lane Projects	21	14	14				

Source: Dynameq model D30R1.0.3, for November 14, 2013 Transportation Commission meeting.



Average Travel Speed



http://www.bls.gov/oes/current/oes_42644.htm#00-0000

Seattle-Bellevue-Everett mean hourly wage for all occupations: **\$27.68**.

Occupati code	Occupation title on (click on the occupation title to view its profile)	¢ Level	Employment	≎ Employment RSE	Employment per 1,000 jobs	¢ Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
00-000	All Occupations	total	1,409,500	0.9%	1000.000	1.00	\$22.18	\$27.68	\$57,560	2.7%



http://www.vtpi.org/tca/tca0502.pdf

Table 5.2.6-1 Recommended Travel Time Values (Relative to Prevailing Wages)³⁶

Category	LOS A-C	LOS D	LOS E	LOS F		Waiting			
					Good	Average	Poor		
Commercial vehicle driver	120%	137%	154%	170%		170%			
Comm. vehicle passenger	120%	132%	144%	155%		155%			
City bus driver	156%	156%	156%	156%		156%			
Personal vehicle driver	50%	67%	84%	100%		100%			
Adult car passenger	35%	47%	58%	70%		70%			
Adult transit passenger - seated	35%	47%	58%	70%	35%	50%	125%		
Adult transit passenger – standing	50%	67%	83%	100%	50%	70%	175%		
Child (<16 years) – seated	25%	33%	42%	50%	25%	50%	125%		
Child (<16 years) – standing	35%	46%	60%	66%	50%	70%	175%		
Pedestrians and cyclists	50%	67%	84%	100%	50%	100%	200%		
Transit Transfer Premium					5-min.	10-min.	15-min.		



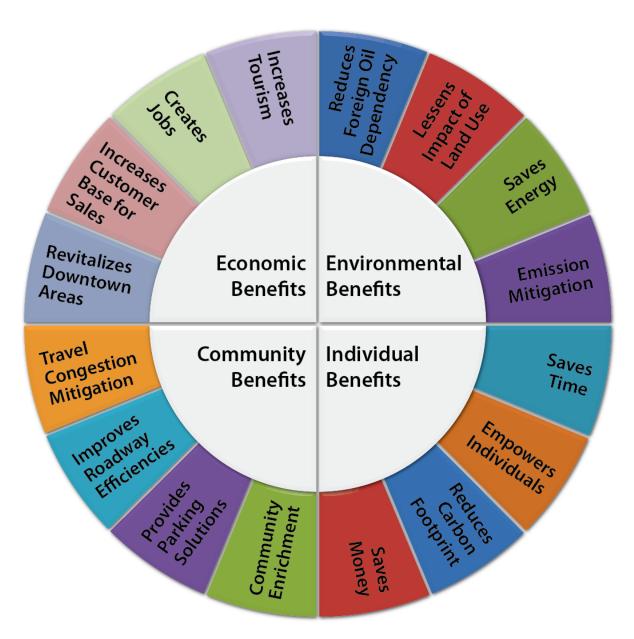
Inputs to Calculation

FTN	PM Peak	PM Peak Av	vg Speed (mph)	Est. PM Pea	ak Rev Hours	Est. PM Peak Re	ev Hours Saved	- PM Peak	Annualized PM Peak
Service Type	Rev Miles	Baseline	HOV/BAT	Est. Baseline	Est. HOV/BAT	Baseline - HOV/BAT	% Diff	Pass Hr / Rev Hr	Pass Hours Saved
Data Source:	Planned	Dynan	neq Model	Calculated		Calcul	ated	BKR Model	Calculated
FX	816,446	18.1	19.1	45,008	42,657	2,352	5.2%	63.2	148,592
FR	290,891	12.4	12.6	23,535	23,014	521	2.2%	33.4	17,414
FL	474,491	12.1	13.1	39,117	36,248	2 <mark>,</mark> 869	7.3%	34.8	99,779
	-							Annual Total:	265,786

FTN Service Annualized PM Peak		Mean Hourly Travel Time Value (Relative to Wage) k Wage		e to Wage)	Value of Time*** (\$/person hr)				Value of Pass Hrs Saved					
Туре	Pass Hours Saved	(Seattle-Bellevue- Everett)	Low — LOS A-C (Seated) / Urban Peak	Medium — LOS A-C (Standing)	High — LOS D (Seating/Standing Average)	Low	Medium	High			Medium			High
Data Source:	Calculated	Bureau of Labor Statistics	Victor	ia Transport Policy Ins	titute		Calculated				Calculate			
FX	148,592								\$	1,439,564	\$ 2,056	519	\$	2,344,432
FR	17,414	\$27.68	35%	50%	57%	\$9.69	\$13.84	\$15.78	\$	168,711	\$ 241	016	\$	274,759
FL	99,779								\$	966,655	\$ 1,380	936	\$	1,574,267
								Annual Total:	\$	2,574,930	\$ 3,678	,471	\$	4,193,457



Transit's Benefits (PM Peak)





Qualitative Benefits



Metro Service Reduction Proposal



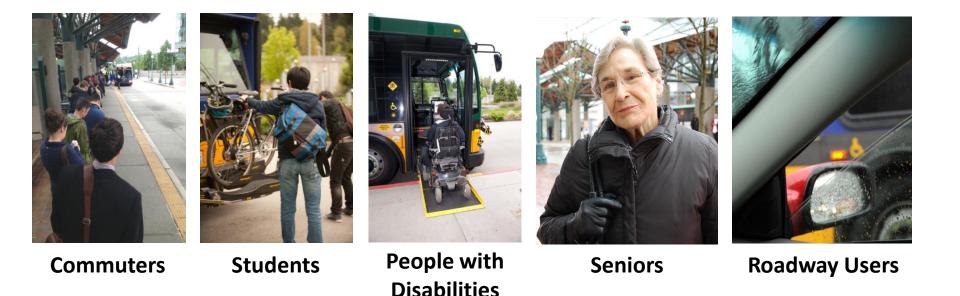
Implications of Metro's proposed 17% service reduction proposal aimed at closing a \$75 million budget gap.





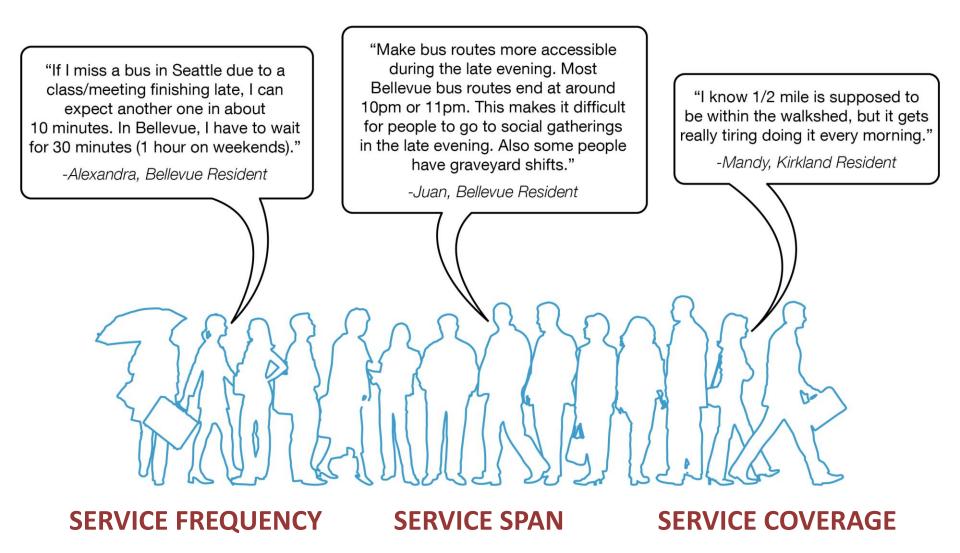
Metro's Reduction Proposal

King County's service reduction proposal affects 28 of the 33 Metro routes in Bellevue; together, these routes transport approximately 35,000 daily weekday rides.



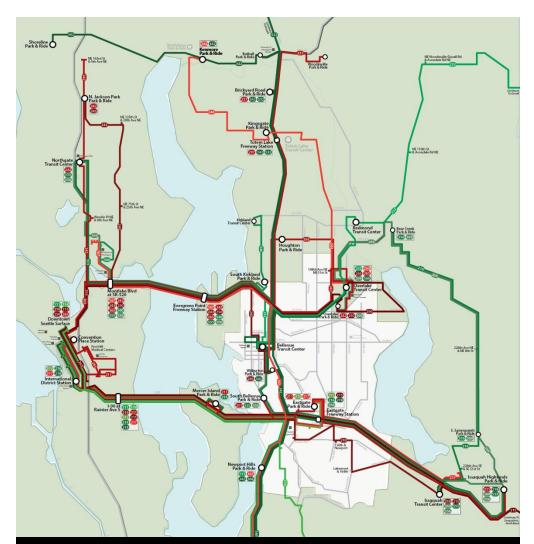


Implications of Reduction





Service Availability



- More Overcrowding
- More Transfers
- Longer Commutes
- More People Driving

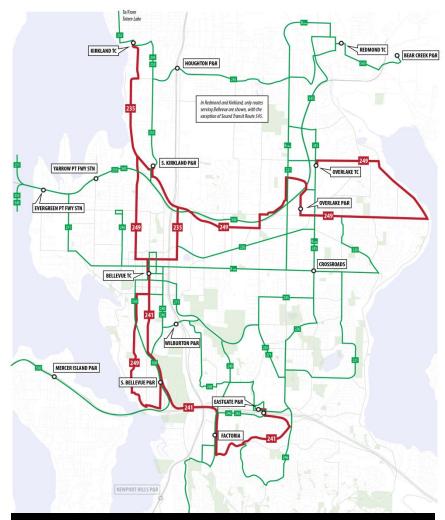
2014 METRO PROPOSAL

Deleted Routes

Renton to University District 167 Issaquah to Downtown Seattle 210 211 Eastgate to First Hill North Bend to Downtown Seattle 215 217 Downtown Seattle to North Issaguah 237 Woodinville to Downtown Seattle 242 **Ridgecrest to Overlake** 243 Jackson Park to Bellevue 244 Kenmore to Overlake 250 Redmond to Downtown Seattle 265 **Overlake to First Hill**

Unaffected Routes

Maplewood to Downtown Seattle 111 Renton Highlands to Downtown Seattle 114 Eastgate to Downtown Seattle 212 216 Bear Creek to Downtown Seattle 218 Issaguah Highlands to Downtown Seattle 232 Duvall to Bellevue 269 Overlake to Issaquah 342 Shoreline to Renton 532 Bellevue to Everett 540 Kirkland to U. District 555 Bellevue to Everett 556 Issaquah to Northgate



- Longer Waiting Times
- More Difficult Connections
- Reduced Reliability
- Loss of an FTN Connection (BTC–KTC)
- More routes 'too infrequent to be useful'

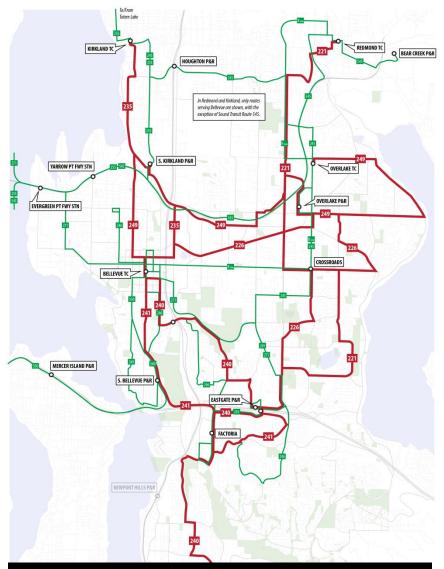
2014 METRO PROPOSAL

Routes with Reduced Weekday Frequency

- 235 Kirkland Bellevue241 Bellevue Factoria Eastgate
- 249 Overlake S. Kirkland Bellevue S. Bellevue

Unaffected Routes

- B Line Redmond Overlake Crossroads Bellevue
- 221 Redmond Crossroads Eastgate
- 226 Eastgate Bel-Red Bellevue
- 240 Bellevue Eastgate Factoria Renton
- 245 Kirkland Crossroads Eastgate Factoria
- 246 Eastgate Somerset Factoria NW Bellevue
- 255 Totem Lake Kirkland Seattle
- 271 Eastgate Bellevue U. District
- 545 Redmond Seattle
- 550 Bellevue Seattle



- Reduced Mobility at Night
- Reduced Access for Swing Shift Workers
- Reduced 24/7 Urban Vitality

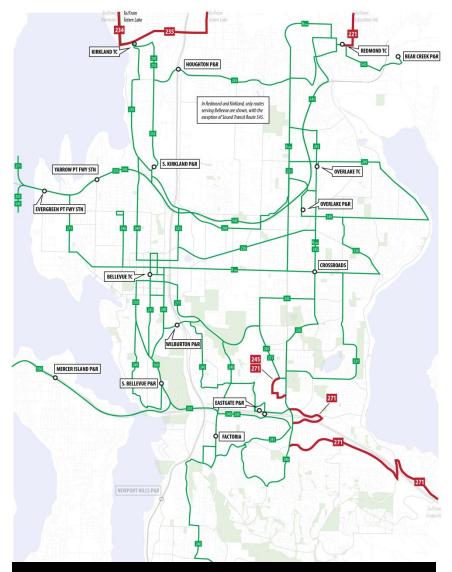
2014 METRO PROPOSAL

Routes with Reduced Span (Hours of Operation)

221	Redmond - Crossroads - Eastgate
226	Eastgate - Bel-Red - Bellevue
235	Kirkland - Bellevue
240	Bellevue - Eastgate - Factoria - Renton
241	Bellevue - Factoria - Eastgate
249	Overlake - S. Kirkland - Bellevue - S. Bellevue

Unaffected Routes

- B Redmond Overlake Crossroads Bellevue
- 245 Kirkland Crossroads Eastgate Factoria
- 246 Eastgate Somerset Factoria NW Bellevue
- 255 Totem Lake Kirkland Seattle
- 271 Eastgate Bellevue U. District
- 545 Redmond Seattle
- 550 Bellevue Seattle



- Reduced Access to Bellevue College
- Reduced Access to Eastgate/I-90 Offices
- More Transfers to Kirkland and Redmond

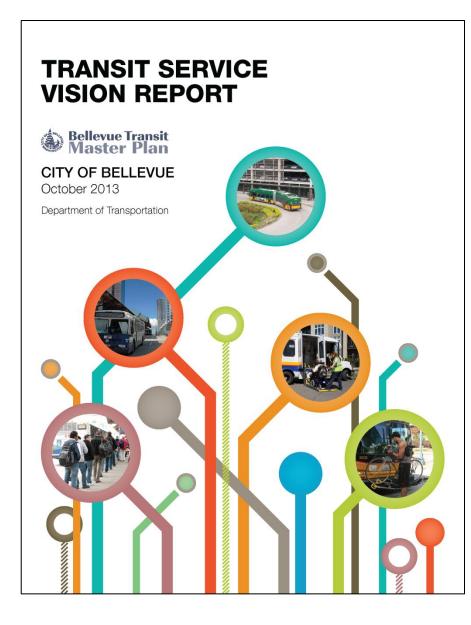
2014 METRO PROPOSAL

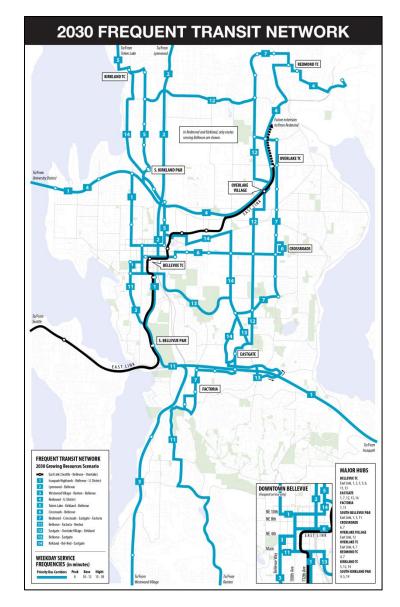
Routes with Deleted Coverage

- 221 Redmond Crossroads Eastgate
- 235 Kirkland Bellevue
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- 271 Eastgate Bellevue U. District

Unaffected Routes

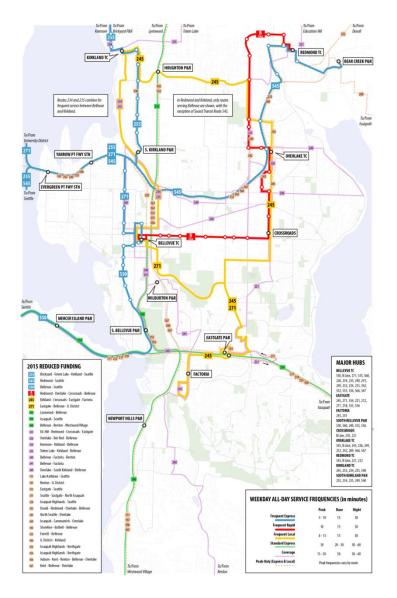
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Transit Master Plan

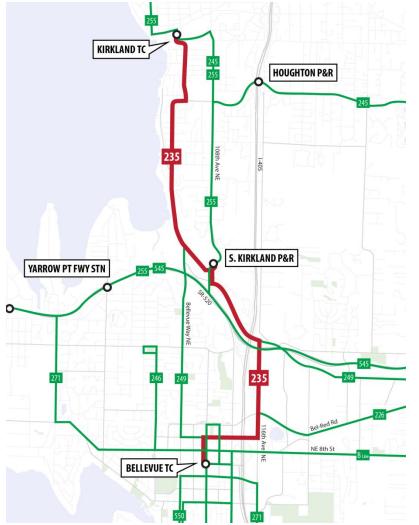


Transit Master Plan Principles:

- Protect all-day service frequency in high demand Frequent Transit Network corridors linking major activity centers.
- Make two types of cuts to the existing system:
 - Delete commuter routes operating empty in counter-flow direction.
 - Delete poor performing routes.



2015 Reduced Funding Scenario

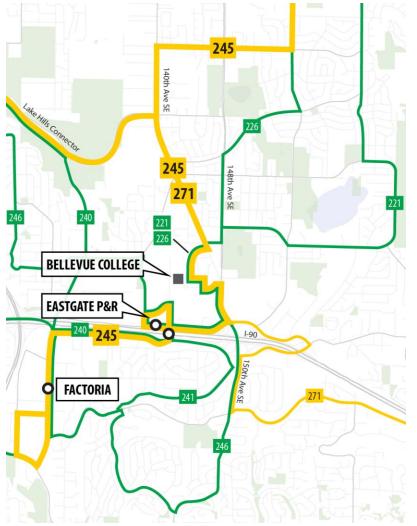


Bellevue Transit

aster Plan

- Metro's 2013 Service Guidelines Report identifies Corridor #53 (Route 234/235) as warranting "very frequent service."
- Metro's proposed restructuring of routes 234 & 235 degrades the Bellevue – Kirkland connection (FTN corridor) to 30 minute frequency during off-peak hours.
- This off-peak service reduction is most impactful to Bellevue's Medical Institution District on 116th Avenue NE.
- "It is critical that the frequency and span of service on Bellevue's most productive corridors be maintained." – Children's Hospital

Bellevue-Kirkland Connection

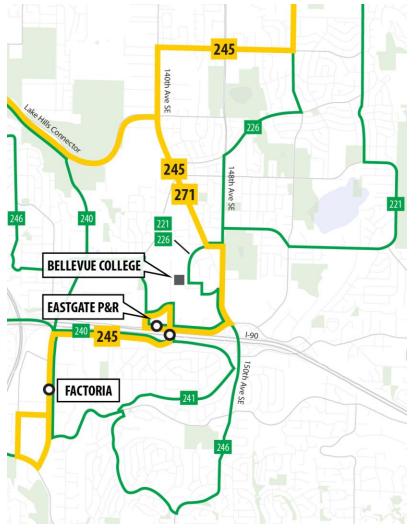


Bellevue Transit

aster Plan

- Metro's 2013 Service Guidelines Report identifies Corridor #14 (Route 271) and Corridor #54 (Route 245) as warranting "very frequent service."
- Metro's proposed restructuring of route 245 & 271 off campus on to 148th Ave SE would add a 1/2 mile walk from the 148th Ave bus stop to the campus.
- Nearly 1/3 of BC students ride transit as their primary mode of transportation. Routes 245 and 271 serve 55% of BC's student transit riders.
- The stop that would be cut supports 1,500+ rides per day.

Bellevue College Connection

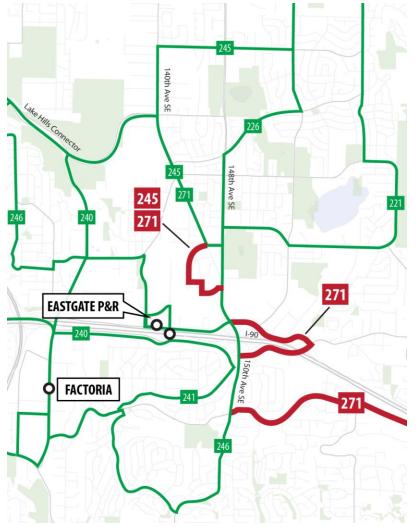


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Bellevue College Connection



Post Office Box 90012 · Bellevue, Washington · 98009 9012

January 14, 2014

Mr. Victor Obeso, Manager Service Development King County Department of Transportation 201 South Jackson, KSC-TR-0426 Seattle, WA, 98104-3856

Re: King County Metro Service Reduction Proposal Dear Mr. Obeso:

On behalf of the City of Bellevue, we appreciate your efforts to integrate our input concerning Metro's service reductions proposal before you transmit a final recommendation to the King County Council. In conjunction with our Transit Master Plan, and anticipating the potential need for this service reduction, Bellevue staff actively engaged the public in an extensive community outreach process consisting of:

- stakeholder interviews:
- · presentations to interest groups;
- . workshops with Bellevue Board and Commission members, transit officials, neighboring jurisdictions, and business interests:
- · an online survey of transit riders, former-riders, and non-riders; and,
- targeted outreach to people with disabilities and non-native English speakers.

Consistent with the community feedback received, the City of Bellevue's highest priority is to maintain all-day headways on our Frequent Transit Network (FTN) corridors. FTN corridors are where transit service and capital investments need to be focused to serve the most riders and provide the highest quality of service. As an active participant in our Transit Master Plan process, Metro understands that the desired end state of Bellevue's "Abundant Access" service vision is a network that is "efficient, useful, attractive service for most people, to most destinations, most of the time, serving maximum ridership." This vision statement was approved by Bellevue City Council on May 20, 2013.

Metro's Service Reduction Proposal

We are deeply concerned about the magnitude of Metro's service cuts proposal which affects 28 of the 33 routes it operates in Bellevue. Together, these routes transport approximately 35,000 daily weekday rides. It is difficult to contemplate the severity of these service cuts at a time when transit ridership in Bellevue is at record levels; between 2003 and 2012 we've seen citywide usage increase by 129 percent from 22,000 to 50,000 daily ons/offs. And, as we look to the future, transit usage in Bellevue is projected to increase threefold by 2030.





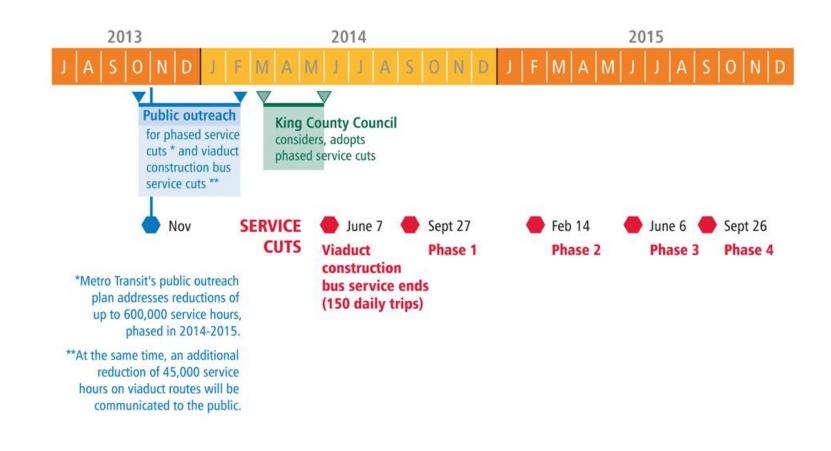




pelink Helping People. Changing Lives.



Community Input on Reduction





For more information >> www.kingcounty.gov/metro/future

13142/D0T/COMM/DISPLAYS 11/02/13



Service Reduction Process

- 1. Bellevue staff presentations to the City Council on January 27 and at an additional briefing in February on the County's proposed ballot measure.
- 2. The King County Council would have to approve a new tax proposal in mid-February for it to go before voters in April 2014.







142nd Place SE Transit Emphasis Corridor (Project #L27)







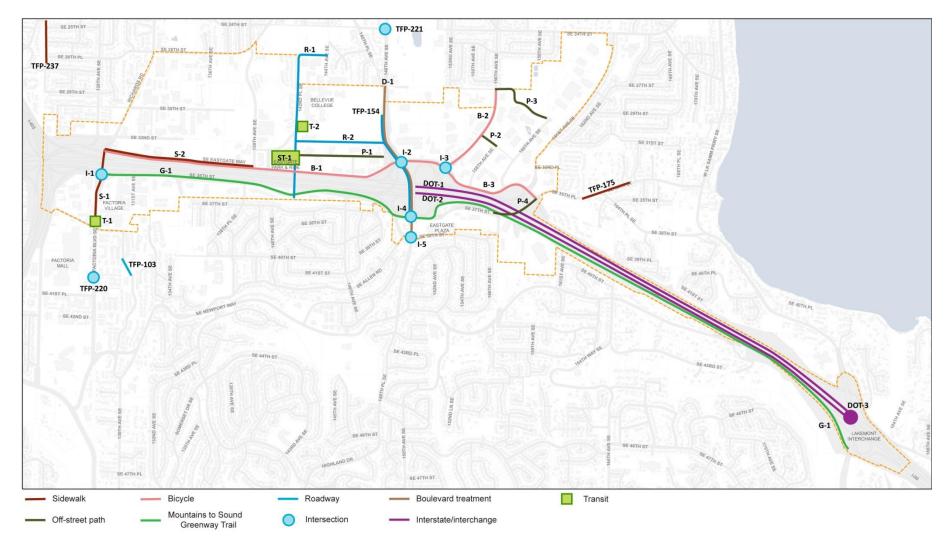
Bellevue Transit Eastgate/I-90 Project: TOD Vision





Leveraging Existing Investments

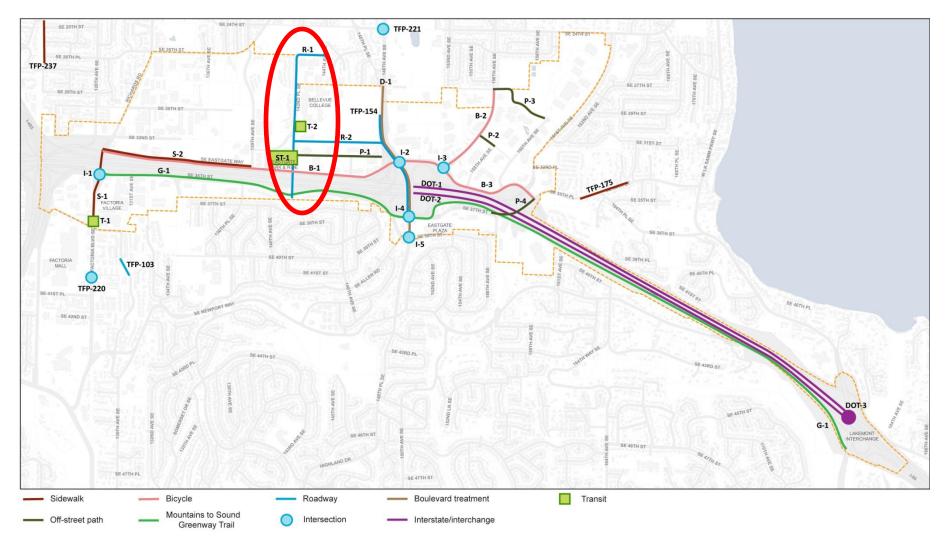






Transportation Improvements



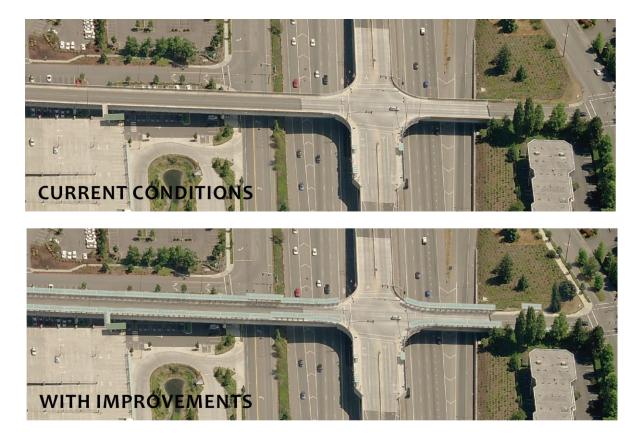




Transportation Improvements

R-1: 142nd Place SE Transit Emphasis Corridor

Transportation Strategies Report: pages 29-33 and A63-A93



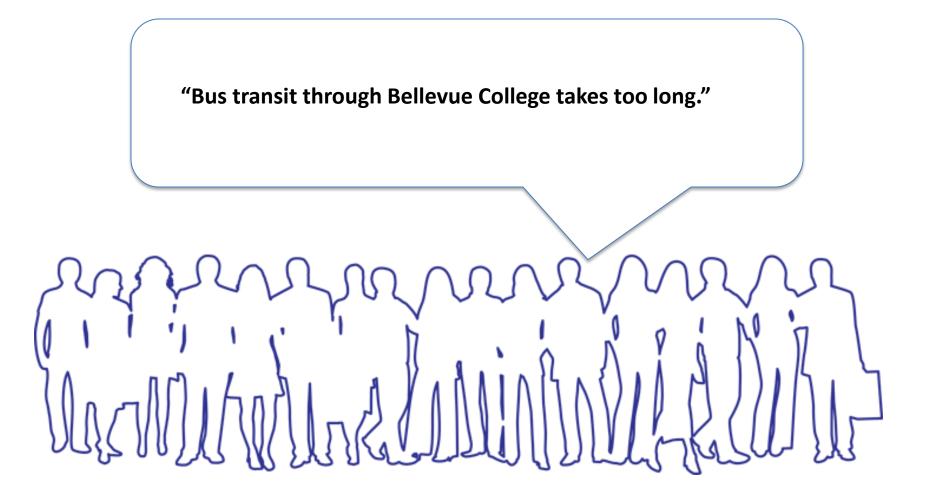


A covered/widened walkway on the 142nd Place SE bridge will improve transit operations at the direct access ramp and at the intersection with SE 36th Street North of the 142nd Place SE bridge, improvements would be made on Snoqualmie **River Road, which** includes upgraded pavement to support buses, sidewalks, and accessible bus stops.

Plan Range: \$5M to \$9.9M (COB estimate, 2011)



Transit Improvements



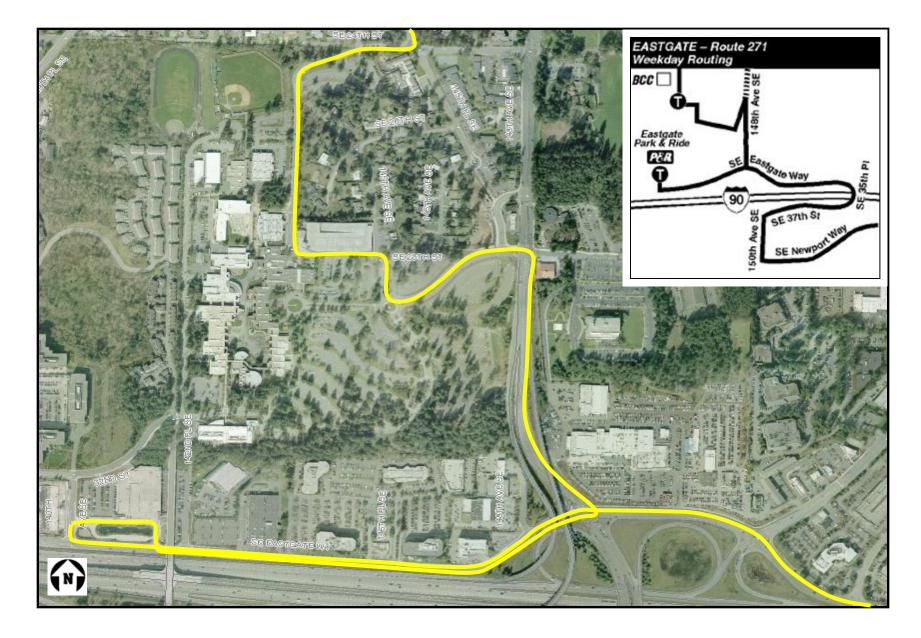


Public Opinion



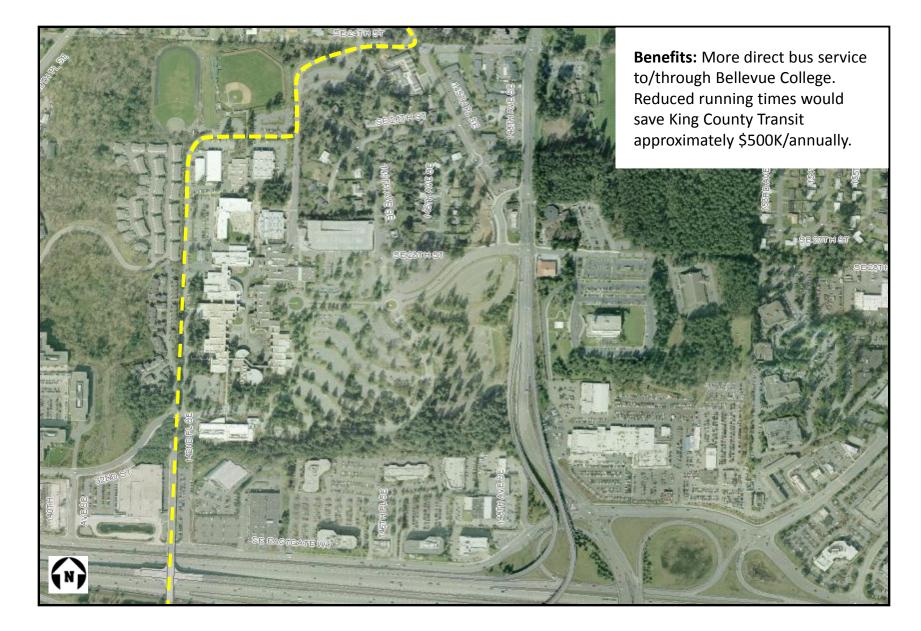


Current Transit Routing (271)





Current Transit Routing (271)





Alternative Transit Routing









1 Existing



142nd Place SE

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F

1 Proposed

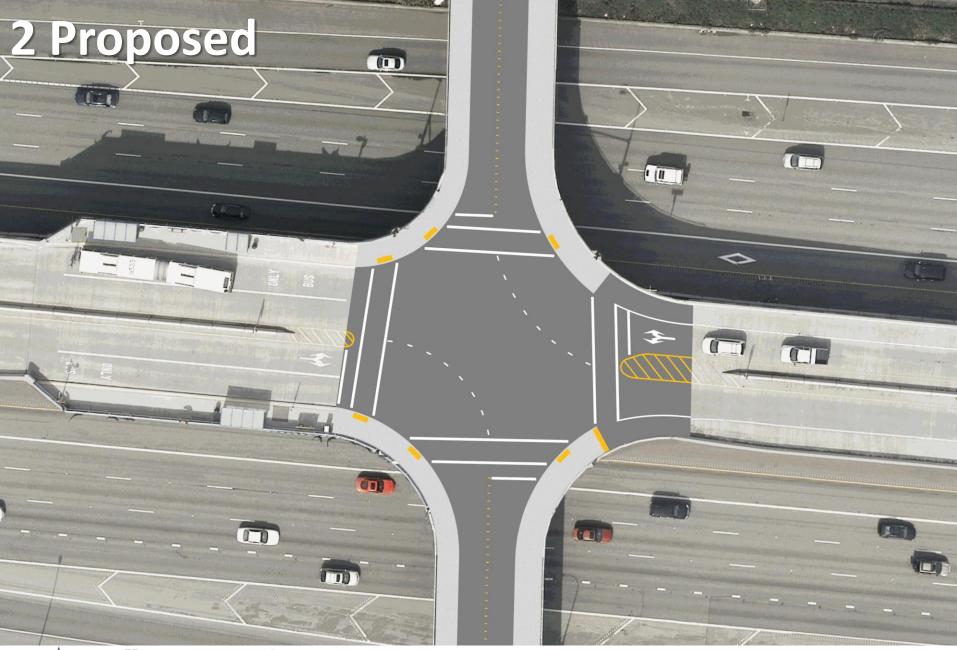


142nd Place SE

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3 Existing

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Proposed



142nd Place SE

4 Existing



142nd Place SE

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4 Proposed



142nd Place SE

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70

Existing





5 Proposed





JIIIII

142nd Place SE

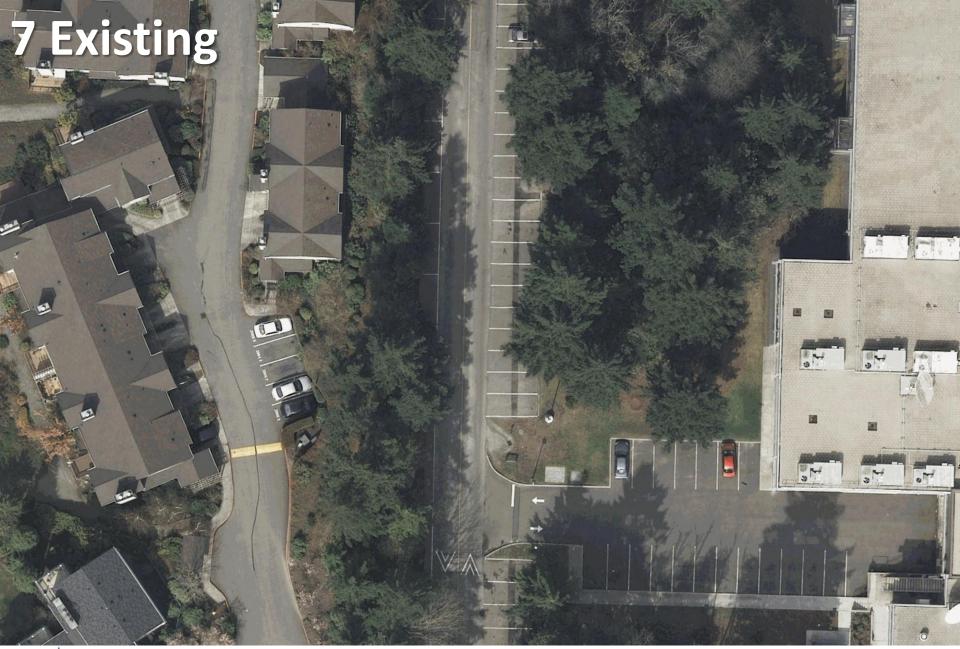
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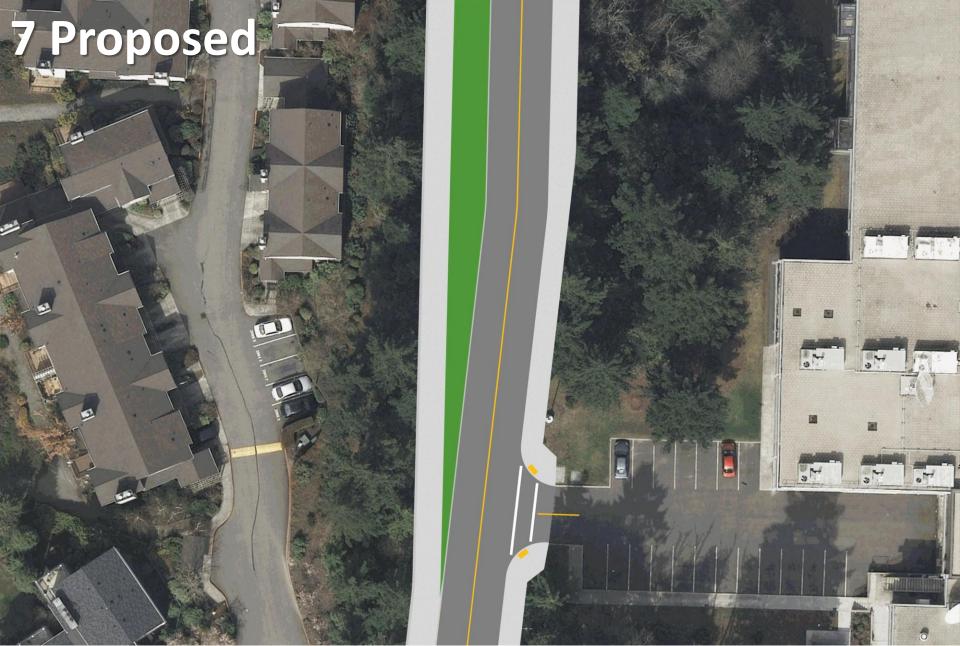
142nd Place SE



142nd Place SE





















142nd Place SE





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20KP-



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142nd Place SE

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142nd Place SE

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142nd Place SE



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142nd Place SE

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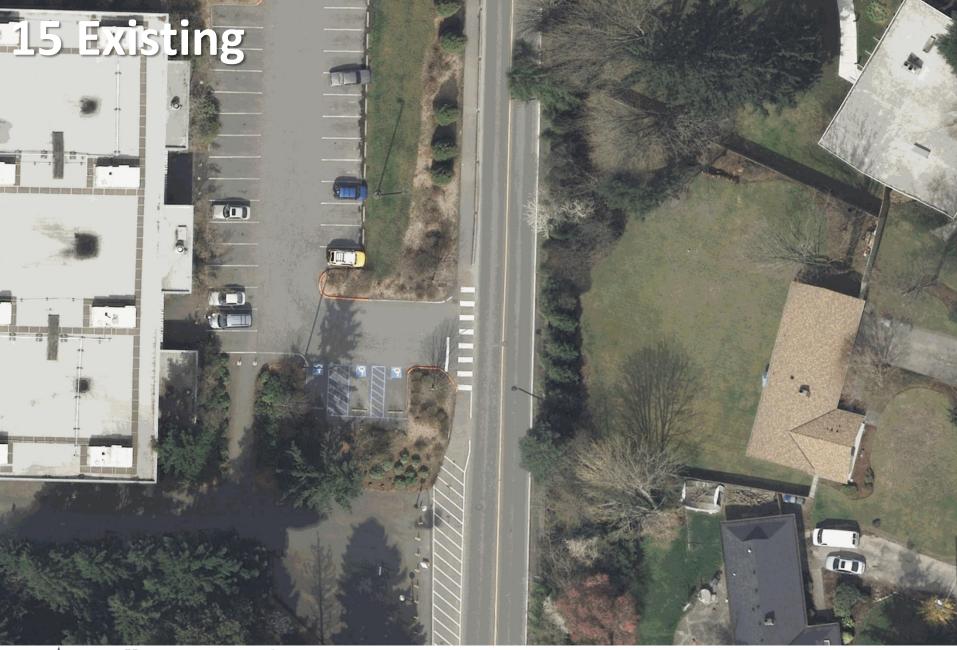
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142nd Place SE

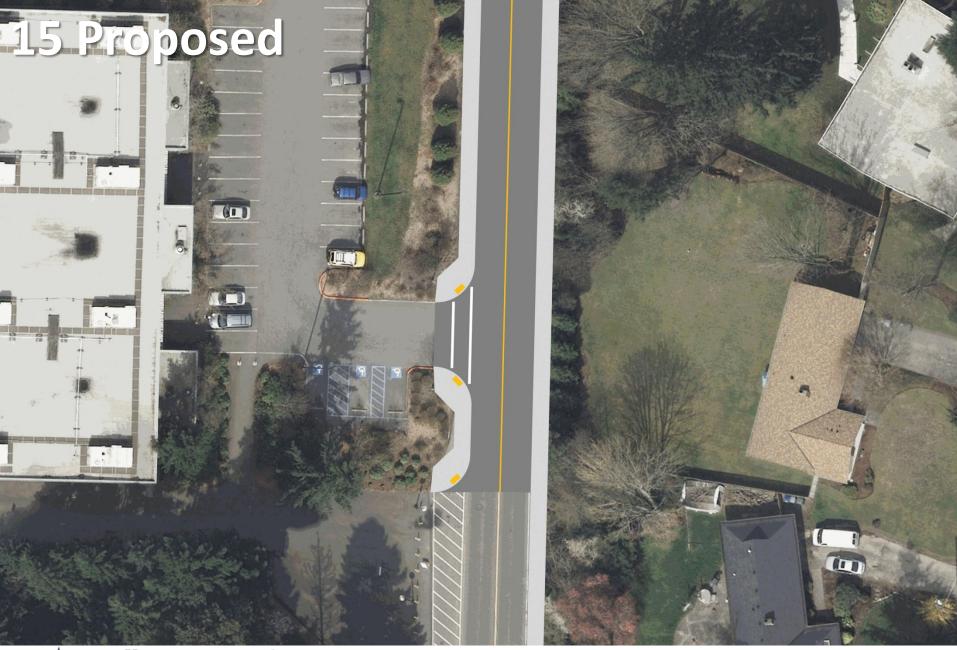
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142nd Place SE

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http://www.bellevuewa.gov/bellevue-transit-plan.htm



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Additional Information