Appendix A:

Non-Motorized Collision Analysis

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Non-Motorized Collision Analysis

A separate analysis was performed on collisions involving pedestrians and cyclists. This analysis differs from the rest of the safety analysis in that it focuses on all collisions, not just fatal and serious injury collisions. It also includes non-motorized collisions which occurred on city-owned surface streets within 1/4 mile of the SR 520 eastern terminus, including Avondale Way, Avondale Road, and Union Hill Road. Please refer to the Safety section of Chapter 2 for a full safety analysis of the study corridor.

Summary

During the 2007 – 2011 analysis period, there were seven pedestrian/vehicle and 19 cyclist/vehicle collisions. Of these 26 collisions, one resulted in a serious injury; the rest of the vehicle/non-motorized collisions resulted in evident injuries (62%), possible injuries (27%), or no injuries (8%). There were no fatal collisions involving pedestrians or cyclists.

Sixty-nine percent of the vehicle/non-motorized collisions occurred on SR 520 facilities, and 31% of them occurred on the surface streets defined above. Of the SR 520 collisions, all but one occurred at ramp termini.

Location	No. of Collisions
SR 520 Mainline:	1
SR 520 Ramp Termini:	17
Avondale (within 1/4 mile of SR 520)	8
> Total:	**26**

Severity	No. of Collisions
Fatal Collisions:	0
Serious Injury Collisions:	1
Evident Injury Collisions:	16
Possible Injury Collisions:	7
Property Damage Only (PDO):	2
> Total:	**26**

The single serious injury collision involved a vehicle and cyclist at the intersection of Avondale Way and NE 80th Street/Union Hill Road. The vehicle was going straight ahead but the record does not indicate in which direction. The cyclist failed to grant proper right-of-way to the vehicle, turning into the vehicle's path from the opposite direction. The collision occurred in Jun 2008 at 9 am, it was raining, and the driver was female, 49.

Fifty-six percent of the non-motorized collisions occurring on SR 520 facilities were at the **148th Avenue NE ramp termini intersections (both diamond ramps),** where six cyclists and three pedestrians have been hit in the past five years. The 520 Bike Trail intersects the north half of this location.

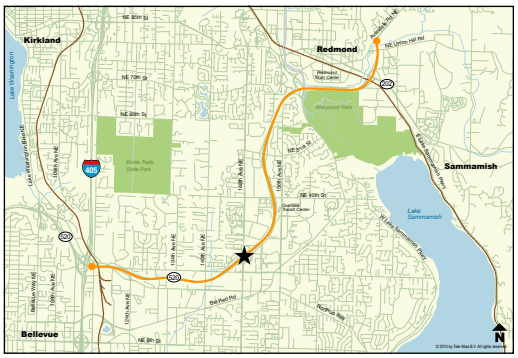
Twenty-eight percent of the non-motorized collisions occurring on SR 520 facilities were at the **westbound ramps intersection with West Lake Sammamish Parkway NE and Leary Way,** where four cyclists and one pedestrian have been hit in the past five years. The 520 Bike Trail intersects this location as well.

A detailed description of the 26 non-motorized collisions is given below. The descriptions are organized by type of facility (mainline, ramps and over/underpasses, and city streets) and then by exit number or location on city street.

Mainline

Exit 9: 148th Ave NE Interchange
1 Possible Injury Collision

The single non-motorized collision on the mainline occurred on the westbound mainline near the offramp to 148th. A vehicle with an impaired driver which was stopped in lane 2 (from a previous collision) was hit by another vehicle which was speeding. From the collision data available it is unclear where the pedestrian comes in. The collisions occurred Sep 2009, 1:00 am, under raining, dark roadway conditions with lighting. Both drivers were males under 30.



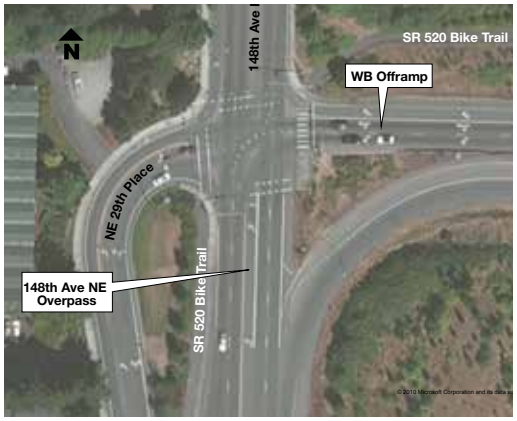
Ramp Termini

Location		No. of Collisions
Exit 9:	148th Ave NE	9
Exit 9A:	NE 40th Street	2
Exit 11:	WLSP	5
Exit 12:	SR 202	1
Total:		**17**

Exit 9: Eastbound & Westbound Ramp Termini at 148th Avenue NE Interchange
7 Evident, 1 Possible, and 1 No-Injury Collision

The north side of this interchange with westbound ramps is separated from the south side of the interchange with eastbound ramps.

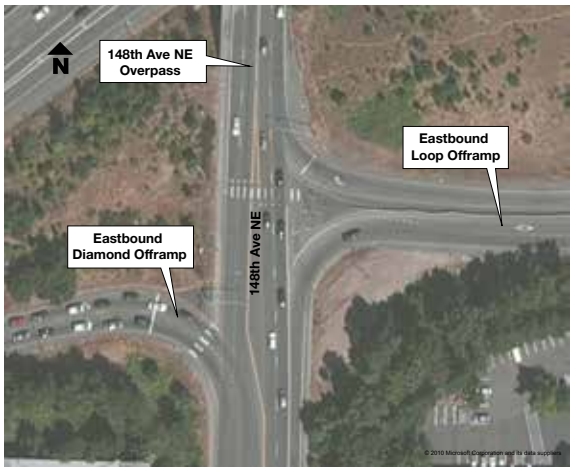
North Half of Exit 9 Interchange: 148th Ave NE and Westbound Ramps
3 Evident and 1 No-Injury Collisions



Four collisions occurred at the westbound offramp intersection with 148th, which also intersects with NE 29th Place. All four involved cyclists. This is a signalized intersection with pedestrian signal buttons which is intersected by the 520 Bike Path.

Two evident injury collisions involved northbound passenger vehicles on the overpass turning left into NE 29th Place, failing to grant right-of-way, and colliding with cyclists riding straight across the intersection. Both collisions occurred during the pm peak under dry daylight conditions. The third evident injury collision involved a southbound passenger vehicle on the overpass running a red light while turning right into NE 29th during the early afternoon and colliding with a westbound cyclist under dry daylight conditions. The no-injury collision was a vehicle turning right off of NE 29th onto the southbound overpass and colliding with a southbound cyclist during the pm peak under dry dark conditions with lighting. Dates were Aug 2007, Jan 2009, Mar 2010, and Sep 2011. Drivers were males aged 24 and 30, and females aged 33 and 59.

South Half of Exit 9 Interchange:
148th Ave NE and Eastbound Ramps
4 Evident and 1 Possible Injury Collision



This is a split intersection with a diamond offramp which goes to southbound 148th, and a loop offramp which goes to northbound 148th. There are separate signals for each of the offramps, both with pedestrian buttons.

All five of the collisions occurred at the same spot: At the intersection of the eastbound diamond offramp with the overpass. This is a signal-controlled double right-turn only onto 148th Avenue NE. There is a sidewalk along the west side of 148th and the ramp intersection has pedestrian buttons.

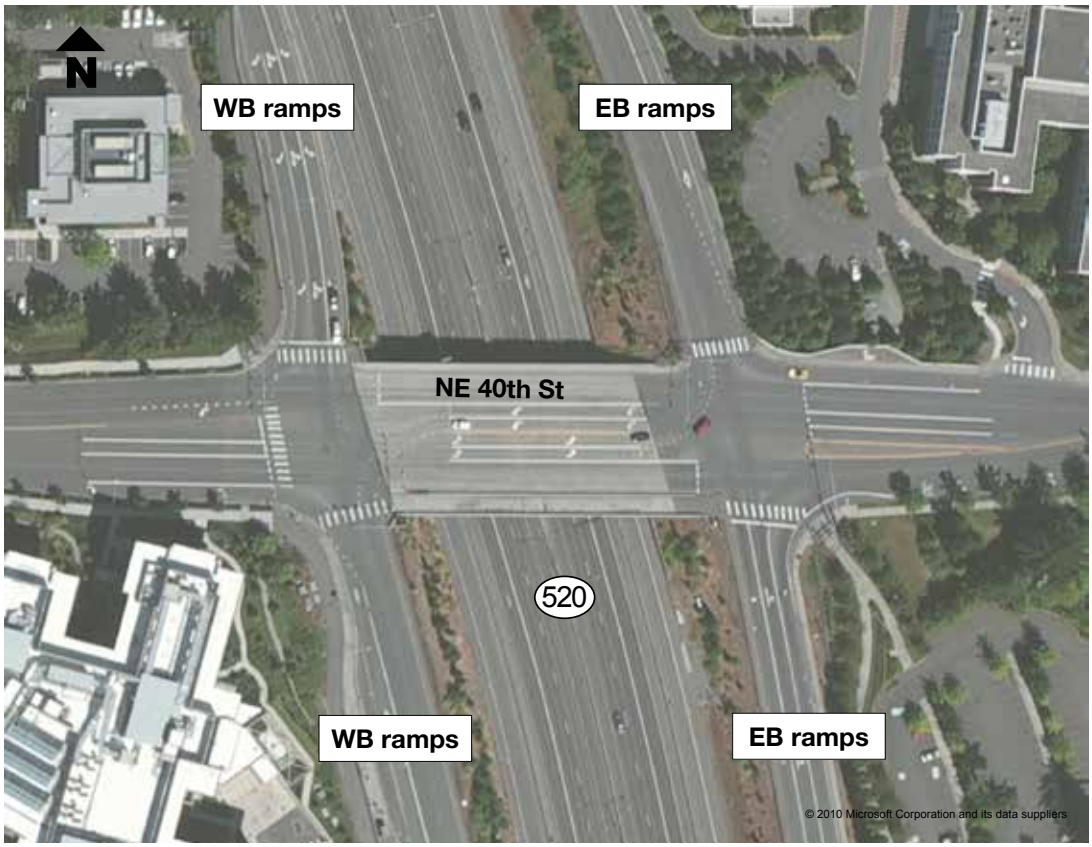
Three of the evident injury collisions and the possible injury collision involved vehicles turning right off of the ramp and hitting a cyclist or pedestrian headed straight across the intersection on the west side of the overpass. Two of the collisions involved pedestrians who were crossing with the signal, and two of the collisions involved cyclists, one who was riding against the traffic. One collision occurred during the morning peak, one in the early afternoon, and two during the pm peaks. Roadway conditions varied. Drivers included a male aged 35, and females aged 17, 56, and 62.

The fourth evident injury collision at this location involved a vehicle headed northbound on the overpass colliding with a pedestrian who was crossing the overpass from west to east. This occurred at 5:30 pm in Dec 2007 under dark wet roadway conditions with lighting, and the driver was an 18 year old male. The pedestrian was crossing against the signal.

The collisions occurred in May and December of 2007 and February, March, and June of 2009.

Exit 9A: Eastbound & Westbound Ramp Termini at NE 40th Street Interchange 2 Evident Injury Collisions

One of these collisions occurred at the intersection of NE 40th Street with the westbound ramps. A vehicle was heading eastbound on NE 40th, turning right onto the westbound onramp, and collided with a cyclist at 6:30 pm in May 2011 under wet daylight conditions. The intersection is signalized with pedestrian buttons. The driver was male, aged 34.



The second collision occurred at the intersection of NE 40th Street with the eastbound ramps. The collision records are a little unclear as to the details. A vehicle hit a cyclist at 6:45 pm in Jul 2008 under dry daylight conditions. The intersection is signalized with pedestrian buttons. The driver was female, 34. Collision records indicate that this area was a work zone at the time of the collision.

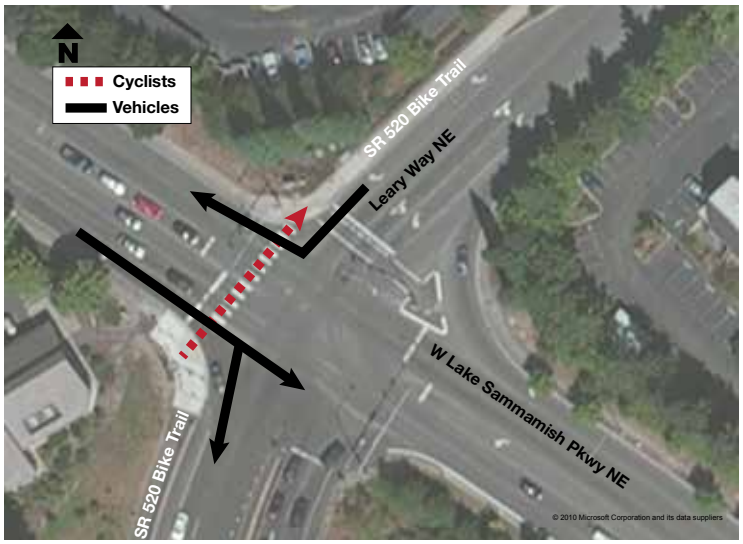
Exit 11: Westbound Ramp Termini at West Lake Sammamish Parkway NE Interchange 2 Possible and 3 Evident Injury Collisions

All five of these collisions occurred at the intersection of the West Lake Sammamish Parkway underpass with Leary Way and the westbound ramps. This intersection is signalized. There are crosswalks on the pavement for the WLSP (on the northwest side of the intersection) and Leary crossings only. All of these collisions were categorized as a failure to yield right-of-way on the part of the driver. Three of the five collisions occurred during the PM peak period, and four of the five collisions involved drivers who were either under 30 or 65+.

Two of the collisions (one possible and one evident injury) happened as vehicles turned right from Leary Way onto north/westbound WLSP. The evident collision involved a cyclist traveling across WLSP to the northeast in December 2011 at 5:20 pm under wet, dark roadway conditions with lighting. The driver was female, aged 65. The possible collision was the only one in the interchange area which involved a pedestrian, who was crossing WLSP with the signal to the southwest. It occurred in November 2010 at 3:20 pm under dry roadway conditions. The driver was female, aged 20.

Two more collisions (one possible and one evident injury) occurred as vehicles turned right from south/eastbound WLSP onto the westbound onramp. The possible injury involved a cyclist headed south/eastbound on WLSP in May 2010 at 5:45 pm with wet roadway conditions. The driver was male, aged 33. The evident injury involved a cyclist headed northeast across the intersection towards Leary Way. That collision occurred in May 2009 at 11:40 am with dry roadway conditions. The driver was female, aged 29.

The fifth collision (evident injury) occurred as a vehicle was headed straight through the intersection on WLSP in the south/eastbound direction. The driver collided with a cyclist headed northeast across the intersection towards Leary way. That collision occurred in June 2011 at 6:00 pm with dry roadway conditions. The driver was male, aged 19.



All five of the collisions occurred between May 2009 and Dec 2011.

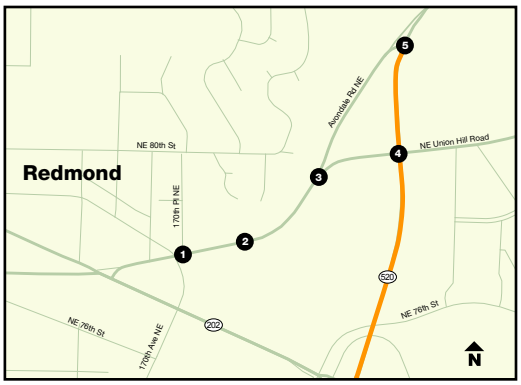
Overall, four of the five collisions involved cyclists and one involved a pedestrian. Note that the 520 Bike Trail passes through this intersection, from the west quadrant to the north quadrant, along the north/west side of the intersection where there is a crosswalk. Three of the four vehicle/bike collisions involved cyclists who were crossing the intersection along the pathway of the trail.

Exit 12: Eastbound Ramp Terminus at SR 202 Interchange 1 No-Injury Collision

One collision occurred at the intersection of the eastbound offramp and SR 202. This intersection has a signal-controlled single lane right-turn only onto SR 202/Redmond Way, with a sidewalk along this (south) side of SR 202. The ramp intersection has pedestrian-activated controls. A vehicle was turning right onto eastbound SR 202/Redmond way and hit a cyclist. Collision occurred Jul 2011 at 8:40 am. Driver was female, 68.

Avondale (within 1/4 mile of SR 520)

	Location	No. of Collisions
1	Avondale Way & 170th Place NE	1
2	17200 Block of Avondale Way	1
3	Avondale Way & NE 80th St/Union Hill Rd	3
4	Avondale Road & Union Hill Road	2
5	Avondale Way NE & Avondale Road	1
	> Total:	**8**



1. Avondale Way & 170th Place NE Intersection 1 Evident Injury Collision

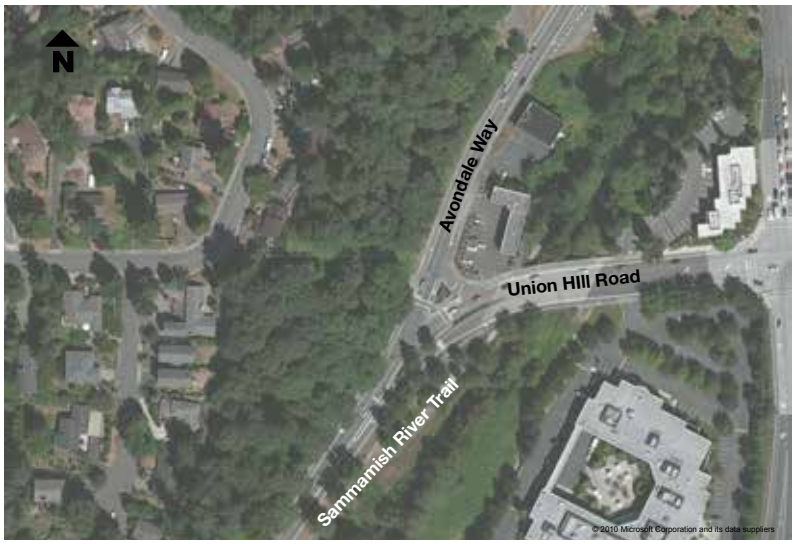
This collision occurred at the intersection of Avondale Way and 170th Place NE. A driver headed north on 170th Ave NE made a right turn onto eastbound Avondale Way, and collided with a cyclist who was riding with the traffic. The intersection is signalized with pedestrian buttons. The collision occurred in May 2009 at 11:30 am. The driver was male, 49. As can be seen from the photo, the northwest corner of this five-legged intersection has undergone construction, and 170th Place has been extended to intersect with Avondale Way.

2. 17200 Block of Avondale Way 1 Possible Injury Collision

This collision appears to have occurred at a shopping center driveway. The vehicle was heading north, turning right out of the driveway onto eastbound Avondale Way, and collided with a pedestrian. This section of Avondale Way has sidewalks on both sides. The driveway is stop-controlled. The collision occurred in Oct 2011 at 6 pm during daylight conditions. Driver was female, 32.

3. Avondale Way & NE 80th Street/Union Hill Road Intersection
1 Serious, 1 Evident, and 1 Possible Injury Collision

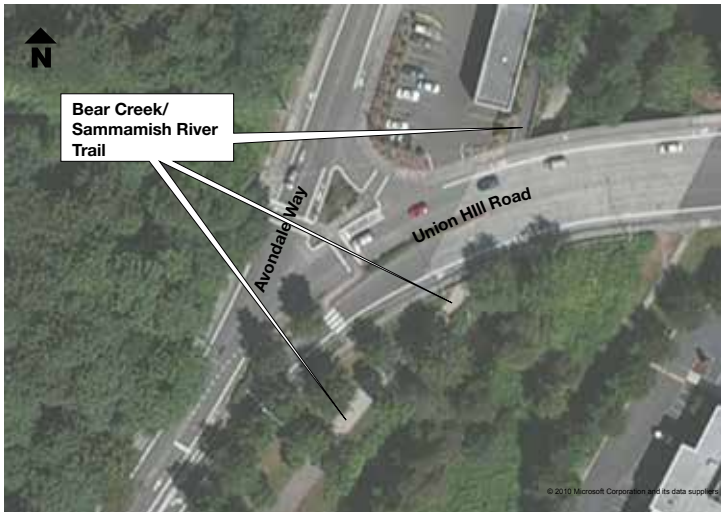
The serious injury collision involved a vehicle and cyclist at the on NE 80th Street in the approximate location of Avondale Way. The vehicle was going straight ahead but the record does not indicate in which direction. The cyclist failed to grant proper right-of-way to the vehicle, turning into the vehicle's path from the opposite direction. The collision occurred in Jun 2008 at 9 am, it was raining, and the driver was female, 49.



The evident injury collision occurred about 100 feet to the west of the collision described above. A vehicle was turning left out of a driveway onto westbound NE 80th and collided with a cyclist who was crossing or entering traffic. The collision occurred in Jul 2008 at 4:15 pm. Driver was male, 47.

The serious and evident collisions occurred within about five weeks of each other.

The possible injury collision occurred at Avondale Way and NE Union Hill Road in Dec 2010 at 7:00 pm. Conditions were rainy and dark with street lighting. A vehicle was driving northbound on Avondale and collided with a pedestrian in the intersection who was crossing with the light. Driver was female, 44. Note that the Bear Creek/Sammamish River Trail crosses to the east of this intersection.



4. Avondale Road & Union Hill Road Intersection 1 Evident and 1 Possible Injury Collision

The intersection of Avondale Road and NE Union Hill Road is signalized with pedestrian buttons. The evident injury collision occurred in Jul 2007 at 7:30 pm. A vehicle was turning right from westbound Union onto northbound Avondale, and collided with a cyclist who was crossing or entering traffic. A contributing cause of the collision was driver distraction and limited visibility due to driving into the setting sun. Driver was male, 49.

The possible injury collision occurred in August 2008 at 1:45 pm. A vehicle was turning right from eastbound Union onto southbound Avondale, and collided with a cyclist who was riding with the traffic. Driver was female, 68.

5. Avondale Way NE & Avondale Road Intersection 1 Evident Injury Collision

This collision occurred on Avondale Road in the 1300 block; the assumed location is shown in the aerial. The vehicle was headed eastbound, turning right out of a driveway onto southbound Avondale Road, and collided with a cyclist riding with the traffic. Collision occurred in Feb 2012, 9:50 am, under dry roadway conditions. Driver was female aged 54.

Appendix B:

Highway Log

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STATE HIGHWAY LOG REFERENCE

The following information provides an overview on how the State Highway Log Planning Report is compiled; broken out in the order they appear in the headers of each page of the publication.

Washington State's Highways are defined by the following: State Route (SR) number, Related Roadway Type (RRT) and Related Roadway Qualifier (RRQ). These three descriptors uniquely identify each and every piece of the highway system in Washington State.

The SR is a road for which the State of Washington has some level of responsibility and is identified by a three-digit number (e.g., 004).

The RRT is a two-character abbreviation for a type of roadway. The following is a list of RRTs in the system. (Asterisk indicates RRT included in this publication).

AR*	Alternate Route	CD	Collector Distributor Dec
CO*	Couplet	CI	Collector Distributor Inc
FD	Frontage Road Dec	LX	Crossroad within Interchange
FI	Frontage Road Inc	P1 - P9	Off Ramp, Inc
FS	Ferry Ship (Boat)	Q1 - Q9	On Ramp, Inc
FT	Ferry Terminal	R1 - R9	Off Ramp, Dec
PR	Proposed Route	S1 - S9	On Ramp, Dec
RL*	Reversible Lane	HD*	Grade-Separated HOV-Dec
SP*	Spur	HI*	Grade-Separated HOV-Inc
TB	Transitional Turnback	ML*	Mainline (Implied RRT—field is blank)
TR	Temporary Route	UC	Under Construction

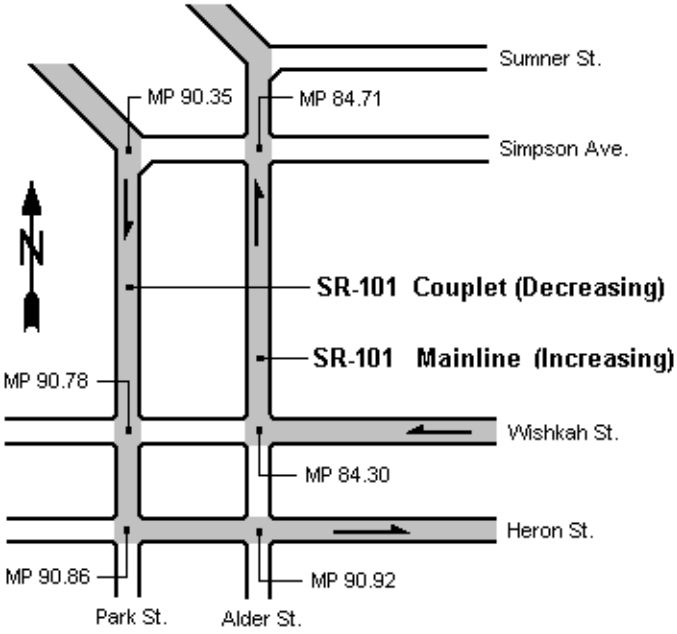
The RRQ is a maximum six-character field that uniquely identifies the RRT since there may be more than one of the same types of RRT for a route. The assigning of RRQ is done in one of three ways depending on the RRT.

1) The following RRTs use descriptive location names (i.e., city, street, or junction) for the RRQ and the begin SRMP of that RRT is relative to the Mainline SRMP where the RRT intersects with the Mainline.

AR	**Alternate Route	SP	Spur
CO	Couplet	TB	Transitional Turnback
PR	Proposed Route	TR	Temporary Route
RL	Reversible Lane		

** Alternate Route contains no RRQ

COUPLET EXAMPLE

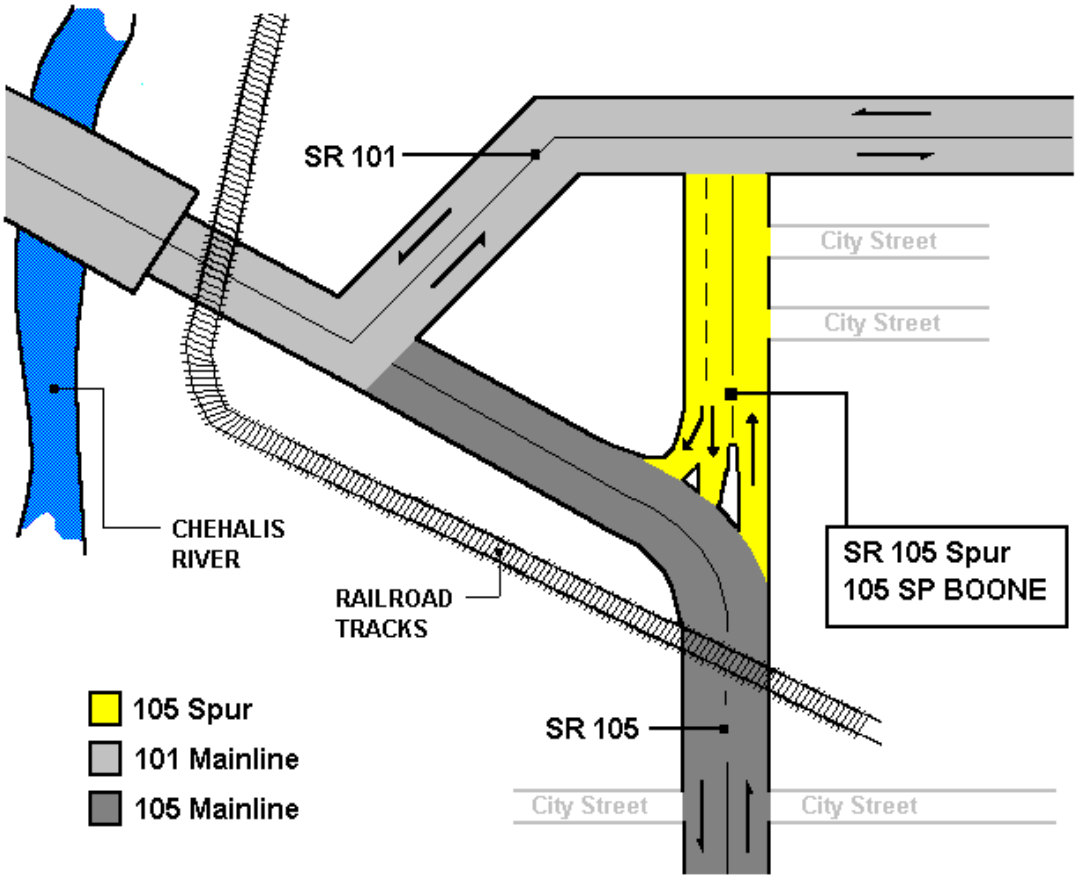


Grays Harbor County
Aberdeen
SR-101
SR-101 CO ABERDN

EXAMPLE: 101 CO ABERDN

Where:	101	=	SR Number
	CO	=	RRT for Couplet
	ABERDN	=	Abbreviated name of city where RRT exists

SPUR EXAMPLE



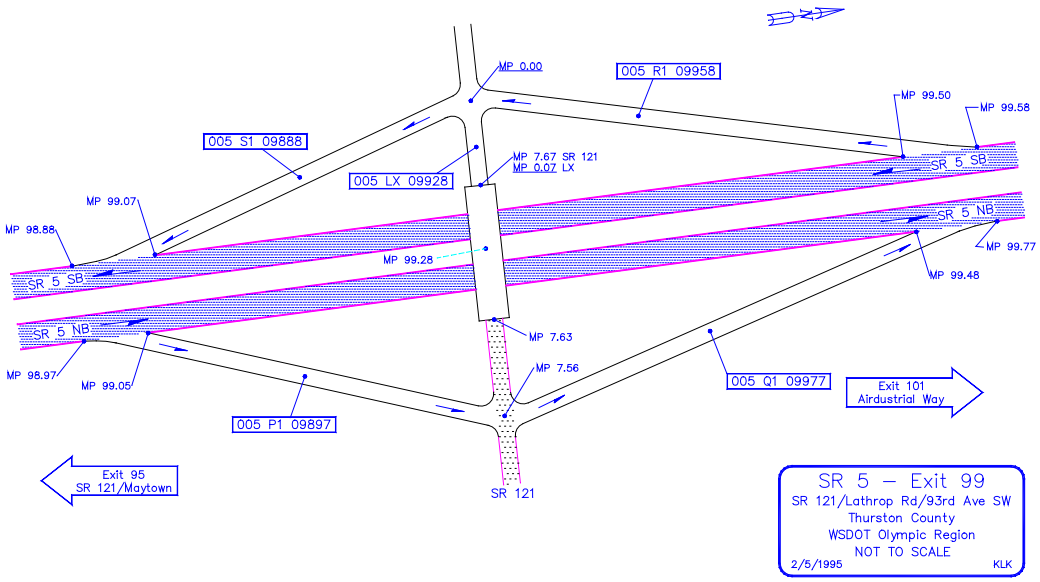
EXAMPLE: 105 SP BOONE

Where:	105	=	SR Number
	SP	=	RRT for Spur
	BOONE	=	Name of street where RRT exists

2) The following RRTs use the Mainline SRMP where the RRT attaches to the Mainline. The begin SRMP for that RRT will be 0.00.

CD	Collector Distributor Dec	P1 - P9	Off Ramp, Inc
CI	Collector Distributor Inc	Q1 - Q9	On Ramp, Inc
FD	Frontage Road Dec	R1 - R9	Off Ramp, Dec
FI	Frontage Road Inc	S1 - S9	On Ramp, Dec
LX	Crossroad within Interchange	HD	Grade-Separated HOV-Dec
HI	Grade-Separated HOV-Inc		

DIAMOND INTERCHANGE EXAMPLE



EXAMPLE: 005 R1 09958

Where: 005 = SR Number
R1 = RRT for decreasing MP direction off-ramp (R ramp)
09958 = Mainline SRMP at beginning of the R ramp where it leaves the mainline

3) The following RRTs use descriptive names such as a city or ship name for the RRQ. The begin SRMP is always a zero value (000.00).

FS	Ferry Ship
FT	Ferry Terminal

An SR number of 999 is used for Ferry Ships since they are not assigned to a specific route. The RRQ represents the name or abbreviated name of the ship.

An SR number of 999 is used for Ferry Terminals only if the terminal is not located on a route. The RRQ represents the name or abbreviated name of the city where the terminal is located.

STATE ROUTE MILEPOST (SRMP)

State Route Milepost (SRMP) is a linear referencing system used to assign a logical number to a given point along a route. The SRMP is carried to the hundredth of a mile (123.45). If realignment shortens or lengthens a section of an SR, the SRMP will adjust with an equation and the SRMP will not change through the rest of the route.

The SRMP identifies reference points and should **NOT** be used for computing distance.

STATE ROUTE MILEPOST BACK (B) INDICATOR

The State Route Milepost Back (B) indicator designates whether the milepost value is the 'back' duplicate of a milepost value 'ahead' on the route. Ahead values have an implied 'A' (blank).

A back SRMP occurs as a result of:

- A realignment that lengthens a section of an SR other than at the end of the route.
- Adding mileage to the beginning of an SR.

ACCUMULATED ROUTE MILE (ARM)

Accumulated Route Mileage (ARM) is an accrual of mileage from the beginning of a route to the end of the route. It accrues through coincident sections where two or more SR's share one physical alignment. The ARM is an important factor in the realignment of a State Route. It does **not** contain equations - it flows through them to give true mileage (see section on equations). The ARM is carried to the hundredth of a mile (123.45).

All length measurements are calculated using the ARM value.

LANE MILE

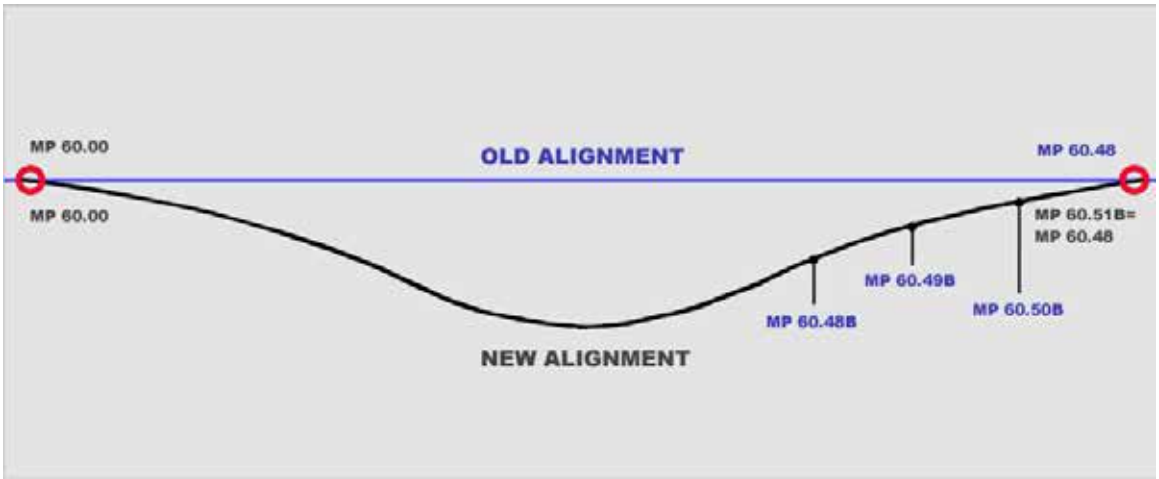
One lane of highway for one mile, i.e. – a section of highway one mile long with 5 lanes has the equivalent of 5 lane miles.

EQUATION (EQ)

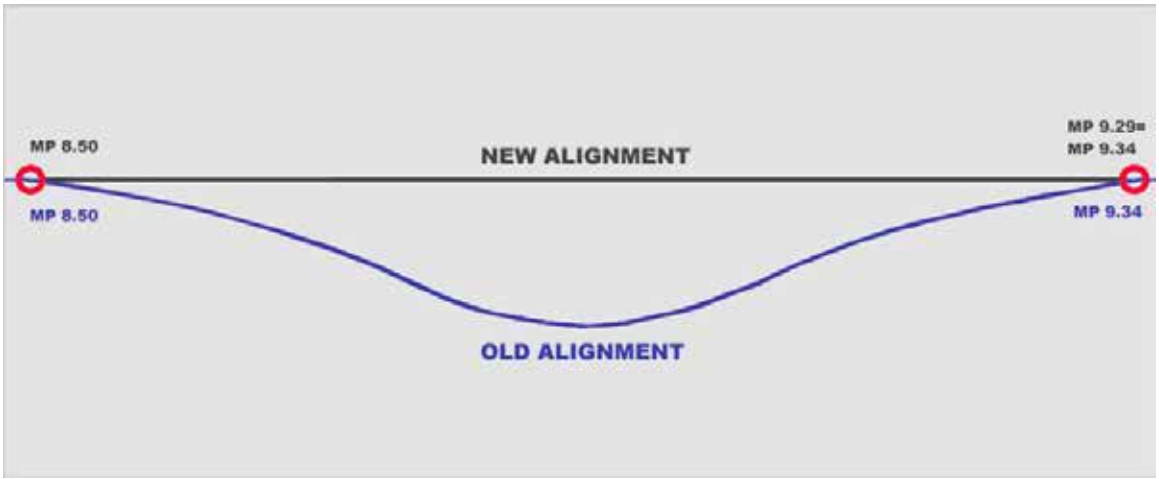
There are 3 kinds of Equations: Back, Gap & Physical Gap

The following page contains drawings of these three types of equations

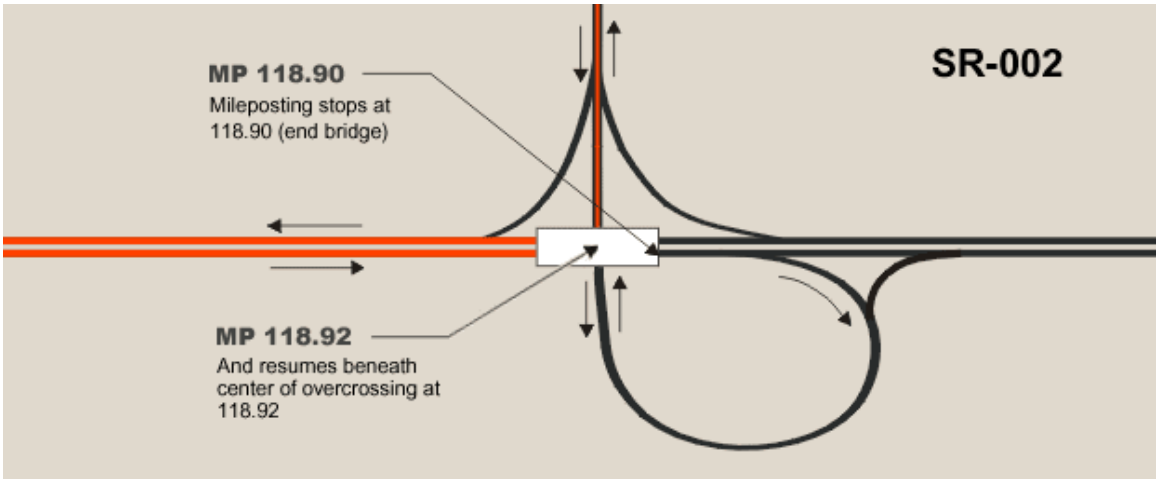
This drawing shows the lengthening of a route due to realignment, creating a back equation



This drawing shows the shortening of a route due to realignment, creating a gap equation



This drawing shows a physical gap equation, due to a separation of alignment



COINCIDENT (COINC)

This occurs when two (or more) State Routes share the same physical alignment. A Coincident location carries one Major State Route and up to three Minor Routes. The Major SR carries all the highway data. The Minor SR will only contain Region and County line breaks.

The assignment of Major or Minor is first based on functional classification of the involved routes. For example, a Principal Arterial would take precedence over a Minor Arterial and/or a Collector. A Minor Arterial would take precedence over a Collector. An Interstate takes precedence over all other routes. If more than one highway has the same functional classification, the route with the lowest SR number will take precedence. ARM accumulates through the coincident section of the Minor SR. This publication contains a listing of Coincident Routes by SR, SRMP & ARM.

FEATURE Following is a list of how some of the features are entered in the "feature" column:

Beg Bridge	Beg Eq	On Ramp
End Bridge	Uxing	Off Ramp
Enter Co	Intersectn	RR Xing
Beg Street	Misc Featr	Border Sta
End Street	Beg Ctlsec	Weigh Sta
Beg Tunnel	Flyer Stop	Leave City
End Tunnel	Prk & Ride	Toll Booth
Enter Dist	Rest Area	Ferry Term

DIRECTION TO INVENTORY

Features that get tagged with this code occur <u>ON</u> the main traveled way.

I = INCREASING - Milepost increases when traveling the roadway in the increasing direction. Usually odd numbered routes run south to north increasing and even numbered routes run west to east increasing. There are some exceptions to this rule.

D = DECREASING - Milepost decreases when traveling the roadway in the decreasing direction. Usually odd numbered routes run north to south decreasing and even numbered routes run east to west decreasing. There are some exceptions to this rule.

B = BOTH - The feature affects both the increasing and decreasing direction of travel.

LEFT/RIGHT INDICATOR

Features that get tagged with this code occur ALONG SIDE the main traveled way. All Left Right Indicators are assigned based on the INCREASING direction of travel, starting from the left and working to the right.

L = LEFT Represents features located along side the decreasing traveled way.

LC = LEFT CENTER Represents features located along side the median side of the decreasing traveled way.

C = CENTER Represents a feature that occurs between the increasing and decreasing traveled way.
RC = RIGHT CENTER Represents features located along side the median side of the increasing traveled way.

R = RIGHT Represents features located along side the increasing traveled way.

B = BOTH The feature occurs along side both the increasing and decreasing traveled way.

DESCRIPTION – DESCRIPTION OF FEATURE

Bridge/UXing/XRoad - OW (Owner Code)

ST = State	CO = County	CT = City
FS = Forest Service	PK = Park Service	RS = Reservation
PV = Private	MY = Military	OT = Other
SO = State/County	SI = State/City	CC = County/City

Bridge/UXing/XRoad - TC (Traffic Control)

SS = Stop Sign	YS = Yield Sign
AF = Amber Flashing	RS = Railroad Signal
OT = Other Traffic Control	NO = No Traffic Control
SZ = School Zone	PC = Pedestrian Control
SG = Stop and Go	FS = Fire Signal
RF = Red Flashing	OF = Officer or Flagman

Bridge/UXing/XRoad - L (Illumination) Y = Yes
N = No

WIDTH AND SURFACE INFORMATION

DECREAS/DIV (DECREASING/DIVIDED)

NBR LNS D = Number of lanes in decreasing direction of the roadway.

I = Number of lanes in increasing direction of the roadway.

LFT SHD W = Width of outside shoulder in decreasing direction of the roadway. No width will be shown when surface type = C or W.

S = Shoulder Surface Type

A = Asphalt	B = Bituminous	G = Gravel
S = Soil	C = Curb	W = Wall
P = Portland Cement Concrete		O = Other

RDY W = Width of roadway in decreasing direction of the roadway.

S = Roadway Surface Type

A = Asphalt	P = Portland Cement Concrete
B = Bituminous	G = Gravel
S = Soil	O = Other

RHT SHD W = Width of inside shoulder in decreasing direction of the roadway. No width will be entered when surface type = C or W.

S = Shoulder Surface Type (same as left shoulder surface types).

MEDIAN

WD Median Width

S Median Surface Type

S = Soil	G = Gravel
O = Other	A = Asphalt
B = Bituminous	P = Portland Cement Concrete

BR Median Barrier Type

DE = Depressed	CU = Curb
FB = Flex Beam	JE = Jersey Type Barrier
GP = Guide Post	RG = Rock Wall * Gabion
UP = Unprotected	IA = Impact Attenuator
WA = Wall	FE = Fence
SS = Snow Shed	BE = Bridge End Guard Rails
GR = Guard Rail	CA = Cable

INCRES/UNDI (INCREASING/UNDIVIDED)

Will be used for divided multilane in the direction of inventory, and for the entire roadway for two lane or undivided highways.

LFT SHD W = Width of inside shoulder in increasing direction of the roadway.

S = Shoulder Surface Type

RDY W = Width of roadway in increasing direction of the roadway.

S = Roadway Surface Type

RHT SHD W = Width of outside shoulder in increasing direction of the roadway.

S = Shoulder Surface Type

SPC USE LNS WID - Width of Special Use Lane

Special Use Lane Types - (Appears in Description Field)

Climbing	Two Way Turn	High Occupancy Vehicle
Bicycle	Reversible	Slow Vehicle Turnout
Chain Up	Transit	Truck Climbing Shoulder
Holding	Weaving/Speed Change	

TOT RDY WIDTH - Total roadway width includes decreasing roadway, increasing roadway and special use lane widths. This total does not include shoulder and median widths.

CLASSIFICATIONS

MTCE — Maintenance

A = Maintenance Area Number
SE = Maintenance Section Number

CITY NBR — City Number assigned to a city by the Census.

STFC — State Functional Classification

R1 = Rural-Principal Arterial	U1 = Urban-Principal Arterial
R2 = Rural-Minor Arterial	U2 = Urban-Minor Arterial
R3 = Rural-Collector	U3 = Urban-Collector
R4 = Rural-Unclassified	U4 = Urban-Unclassified
R5 = Rural-Interstate	U5 = Urban-Interstate

Urban Area - An area designated by WSDOT in cooperation with the Transportation Improvement Board and Region transportation planning organizations, subject to the approval of the FHWA.

Legal Speed

D = Official speed limit as designated for decreasing direction of the roadway.
IB = Official speed limit as designated for increasing or both directions of the roadway.

TR — Terrain - The contour of the roadway as it relates to the frequency and steepness of hills and the effect on truck speed.

L = Level - Trucks maintain speed.
R = Rolling - Trucks slow down frequently.
M = Mountainous - Trucks slow to a crawl frequently.

PK — Parking Zone - Type of parking that is permitted on a State Route (cities only).

B = Both sides parking permitted
L = Left side parking only permitted
P = Parking prohibited on both sides
R = Right side parking only permitted
X = Prohibited during peak hours

ST — Street Name Alias - The local name of a street assigned to a State Route as the State Route passes through a city.
* = A street name alias is assigned to a State Route (The street name will appear in the description field).

$ — Designates when the previous feature is no longer valid.

INTERSECTION DETAIL

SRMP	State Route Milepost at intersection.
B	"Back" milepost indicator.
ARM	Accumulated route mile at intersection.

TURN LANES

Entering an intersection in the increasing direction of travel would be "near approach."

Entering an intersection in the decreasing direction of travel would be "far approach."

LGT WD	Length (in miles) and width (in feet) will appear in each category of turn and acceleration lanes.
L NEAR	Left turn lane in near approach of intersection.
R NEAR	Right turn lane in near approach of intersection.
L FAR	Left turn lane in far approach of intersection.
R FAR	Right turn lane in far approach of intersection.

ACCELERATION LANES

LEFT	Left acceleration lane in near approach of intersection.
L CNTR	Acceleration lane in near approach of intersection.
R CNTR	Acceleration lane in far approach of intersection.
RIGHT	Right acceleration lane in far approach of intersection.

Vehicles traveling in the decreasing direction of the roadway use Left and Left Center acceleration lanes.

Vehicles traveling in the increasing direction of the roadway use Right and Right Center acceleration lanes.

If you have any questions regarding the State Highway Log or the roadway data, or you can provide us with updated information, please contact the Roadway Data Office at (360) 570-2361 or fax (360) 570-2400. We are continuously looking for sources to provide us with quality information.

The following pages contain sketches to better explain how the State Highway Log Planning Report is compiled.

SR 520 MAINLINE STATE ROUTE - SRSH COUNTY KING DOT DISTRICT 1

SRMP	B ARM	FEATURE	D	LR	DESCRIPTION	-BRIDGE -UXING- -XROAD- OW	TC	L	NBR LNS D	I	DECREAS/DIV LFT SHD W/S	RDY W/S	RHT SHD W/S	MEDIAN- WD/S	BR	INCRES/UNDI LFT SHD W/S	RDY W/S	RHT SHD W/S	SPC USE LNS WID	TOT RDY WID	MTCE A	SE	CITY NBR	ST FC	LEGAL SPEED D	IB	T R	P K	S T
									-------WIDTH AND SURFACE INFORMATION-------												------CLASSIFICATIONS---							
6.31	6.31	ON RAMP		R	108TH AVE NE	ST		Y	2	2	C	26A		20A	JE		24A	10A	36	86	5	01	0075	U1	60	L	P	
6.42	6.42	MISC FEATR		L	GORE (R100647)																							
6.47	6.47	BEG SU LN		L	WEAVING/SPEED CHANGE 12A				2	2	3A	24A		20A	JE		24A	10A	48	96	5	01	0075	U1	60	L	P	
		OFF RAMP		L	108TH AVE NE	ST		Y																				
6.69	6.69	END SU LN		R	WEAVING/SPEED CHANGE 12A				2	2	3A	24A		20A	JE		24A	10A	24	72	5	01	0075	U1	60	L	P	
		END SU LN		L	WEAVING/SPEED CHANGE 12A																							
		ON RAMP		L	SR 405	ST		Y																				
		OFF RAMP		R	SR 405 SB	ST		Y																				
6.71	6.71	MISC FEATR		L	GORE (SR 405 R101594)																							
6.76	6.76	MISC FEATR		R	GORE (SR 405 S101453)																							
6.83	6.83	UXING	B		N-W RAMP	ST																						
					BRDG NUM 405/046N-W																							
6.86	6.86	MISC FEATR		L	GORE (SR 405 S501473)																							
6.90	6.90	END SU LN		L	HIGH OCCUPANCY VEHICL12A				2	2	3A	24A		20A	JE		24A	10A	12	60	5	01	0075	U1	60	L	P	
6.91	6.91	UXING	B		S-E RAMP	ST																						
					BRDG NUM 405/047S-E																							
		MISC FEATR		R	GORE (SR 405 R501594)																							
6.92	6.92								2	2	10A	24A		20A	JE		24A	10A	12	60	5	01	0075	U1	60	L	P	
6.93	6.93	UXING	B		SR 405 SB	ST			3	2	10A	36A		20A	JE		24A	10A	12	72	5	01	0075	U1	60	L	P	
					BRDG NUM 405/046W																							
		OFF RAMP		L	SR 405 SB	ST		Y																				
6.95	6.94	EQUATION			006.94 =006.95																							
		UXING	B		SR 405 NB	ST																						
					BRDG NUM 405/046E																							
6.97	6.96	UXING	B		E-N RAMP	ST																						
					BRDG NUM 520/018E-N																							
7.01	7.00	MP MARKER		R	7																							
7.02	7.01	MISC FEATR		L	GORE (SR 405 Q101548)																							
7.03	7.02	ON RAMP		R	SR 405 SB	ST		Y	3	2	$$C	68P	C	20O	$$	W	40A	$$C	12	120	5	01	0075	U1	60	L	P	
		BEG BRIDGE	B		116TH AVE NE	ST																						
					BRDG NUM 520/021																							
7.06	7.05	END BRIDGE	B		116TH AVE NE				3	2	10A	36A	$	20A	JE	$	24A	10A	12	72	5	01	0075	U1	60	L	P	
		BEG SU LN		L	WEAVING/SPEED CHANGE 12A																							
		OFF RAMP		L	SR 405 NB	ST		Y																				
		MISC FEATR		R	GORE (SR 405 P101406)																							
7.09	7.08	CHG SU LN		L	WEAVING/SPEED CHANGE 12P				3	2	$$W	54P	W	20O	$$	C	54A	$$W	24	132	5	01	0075	U1	60	L	P	
		BEG BRIDGE	I		BN RR	ST																						
					BRDG NUM 520/022S																							
		RR XING	B		NUM 91769B STRUCTURE																							
		RR XING	B		NUM 91770V STRUCTURE																							
		BEG BRIDGE	D		BN RR	ST																						
					BRDG NUM 520/022N																							
7.13	7.12	END BRIDGE	I		BN RR				3	2	10A	36A	$	20A	JE	$	24A	10A	24	84	5	01	0075	U1	60	L	P	

SR 520 MAINLINE STATE ROUTE - SRSH COUNTY KING DOT DISTRICT 1

SRMP	B ARM	FEATURE	D	LR	DESCRIPTION	-BRIDGE -UXING- -XROAD- OW	TC	L	NBR LNS D	I	DECREAS/DIV LFT SHD W/S	RDY W/S	RHT SHD W/S	MEDIAN- WD/S	BR	INCRES/UNDI LFT SHD W/S	RDY W/S	RHT SHD W/S	SPC USE LNS WID	TOT RDY WID	MTCE A	SE	CITY NBR	ST FC	LEGAL SPEED D	IB	T R	P K	S T
									-------WIDTH AND SURFACE INFORMATION-------												------CLASSIFICATIONS---								
					:DIRECTION TO INVENTORY : :LEFT/RIGHT INDICATOR : :																								
7.13	7.12	END BRIDGE	D		BN RR				3	2	10A	36A		20A	JE		24A	10A	24	84	5	01	0075	U1	60	L	P		
		CHG SU LN		L	WEAVING/SPEED CHANGE 12A																								
		BEG BRIDGE	I		HALF BRIDGE	ST																							
					BRDG NUM 520/022.5S																								
7.17	7.16	END BRIDGE	I		HALF BRIDGE																								
7.21	7.20	ON RAMP		R	SR 405 NB	ST		Y																					
7.23	7.22	CHG SU LN		L	WEAVING/SPEED CHANGE 12P				3	2	$$W	54P	W	32S	JE	6A	24A	10A	24	102	5	01	0075	U1	60	L	P		
		BEG BRIDGE	D		NORTHUP WAY	ST																							
					BRDG NUM 520/025N																								
7.25	7.24	CHG SU LN		R	HIGH OCCUPANCY VEHICL12P				3	2	W	54P	W	32O	$$	$$C	38P	$$W	24	116	5	01	0075	U1	60	L	P		
		BEG BRIDGE	I		NORTHUP WAY	ST																							
					BRDG NUM 520/025S																								
7.29	7.28	END BRIDGE	D		NORTHUP WAY				3	2	10A	36A	6A	32S	GR	C	38P	W	24	98	5	01	0075	U1	60	L	P		
		END SU LN		L	WEAVING/SPEED CHANGE 12P																								
		ON RAMP		L	124TH AVE NE	ST		Y																					
7.32	7.31	END BRIDGE	I		NORTHUP WAY				3	2	10A	36A	10A	32S	GR	10A	24A	10A	12	72	5	01	0075	U1	60	L	P		
		CHG SU LN		R	HIGH OCCUPANCY VEHICL12A																								
7.35	7.34	OFF RAMP		R	124TH AVE NE	ST		Y																					
7.41	7.40	MISC FEATR		R	GORE (P100735)																								
		MISC FEATR		L	GORE (S100729)																								
7.49	7.48	BEG BRIDGE	D		124TH AVE NE	ST			3	2	$$W	56P	$$W	134S	GR	10A	24A	10A	12	92	5	01	0075	U1	60	L	P		
					BRDG NUM 520/027N																								
7.53	7.52	CHG SU LN		R	HIGH OCCUPANCY VEHICL12P				3	2	W	56P	W	134O	$$	$$W	44P	$$W	12	112	5	01	0075	U1	60	L	P		
		BEG BRIDGE	I		124TH AVE NE	ST																							
					BRDG NUM 520/027S																								
7.54	7.53	END BRIDGE	D		124TH AVE NE				2	2	10A	24A	10A	134S	GR	W	44P	W	12	80	5	01	0075	U1	60	L	P		
		BEG SU LN		L	HIGH OCCUPANCY VEHICL12A																								
7.57	7.56	END BRIDGE	I		124TH AVE NE				2	2	10A	24A	10A	134S	GR	10A	24A	10A	24	72	5	01	0075	U1	60	L	P		
		CHG SU LN		R	HIGH OCCUPANCY VEHICL12A																								
7.62	7.61								2	2	10A	24A	10A	134S	DE	10A	24A	10A	24	72	5	01	0075	U1	60	L	P		
7.63	7.62								2	2	10A	24A	10A	157S	DE	10A	24A	10A	24	72	5	01	0075	U1	60	L	P		
7.80	7.79	MED XING		C	OFFICIAL																								
7.85	7.84								2	2	10A	24A	$$$	20A	JE	$$$	24A	10A	24	72	5	01	0075	U1	60	L	P		
7.93	7.92	TRAF RCDR	B		S533 0				2	2	$$W	34A		20A	JE		34A	$$W	24	92	5	01	0075	U1	60	L	P		
		BEG BRIDGE	B		130TH AVE NE	ST																							
					BRDG NUM 520/030																								
7.97	7.96	END BRIDGE	B		130TH AVE NE				2	2	10A	24A		20A	JE		24A	10A	24	72	5	01	0075	U1	60	L	P		
7.99	7.98	MP MARKER		R	8																								
8.55	8.54	CHG SU LN		L	HIGH OCCUPANCY VEHICL12P				2	2	$$W	34P		20P	JE		34P	$$W	24	92	5	01	0075	U1	60	L	P		
		CHG SU LN		R	HIGH OCCUPANCY VEHICL12P																								
		BEG BRIDGE	B		140TH AVE NE	ST																							
					BRDG NUM 520/032																								
8.59	8.58	END BRIDGE	B		140TH AVE NE				2	2	10A	24A		20A	JE		24A	14A	24	72	5	01	0075	U1	60	L	P		

SR 520 MAINLINE STATE ROUTE - SRSH COUNTY KING DOT DISTRICT 1

SRMP	B	ARM	FEATURE	D	LR	DESCRIPTION	-BRIDGE -UXING- -XROAD- OW	TC	L	NBR LNS D	I	DECREAS/DIV LFT SHD W/S	LFT RDY W/S	RHT SHD W/S	MEDIAN- WD/S	BR	INCRES/UNDI LFT SHD W/S	LFT RDY W/S	RHT SHD W/S	SPC USE LNS WID	TOT RDY WID	MTCE A	SE	CITY NBR	ST FC	LEGAL SPEED D	IB	T R	P K	S T
												-------WIDTH AND SURFACE INFORMATION-------												------CLASSIFICATIONS---						
				:DIRECTION TO INVENTORY																										
				: :LEFT/RIGHT INDICATOR																										
				: :																										
8.59		8.58	CHG SU LN		R	HIGH OCCUPANCY VEHICL12A				2	2	10A	24A		20A	JE		24A	14A	24	72	5	01	0075	U1		60	L	P	
			CHG SU LN		L	HIGH OCCUPANCY VEHICL12A																								
8.69		8.68	ON RAMP		L	148TH AVE NE	ST		Y																					
8.73		8.72								2	2	10A	24A		20A	JE		24A	10A	24	72	5	01	0075	U1		60	L	P	
8.74		8.73	OFF RAMP		R	148TH AVE NE	ST		Y																					
8.84		8.83	CHG SU LN		L	HIGH OCCUPANCY VEHICL12P				2	2	$$W	60P		20P	JE		66P	$$W	24	150	5	01	0075	U1		60	L	P	
			CHG SU LN		R	HIGH OCCUPANCY VEHICL12P																								
			BEG BRIDGE	I		NE 24TH ST	ST																							
						BRDG NUM 520/034S																								
			BEG BRIDGE	D		NE 24TH ST	ST																							
						BRDG NUM 520/034N																								
8.90		8.89	END BRIDGE	I		NE 24TH ST				2	2	10A	24A		20A	JE		24A	10A	24	72	5	01	0075	U1		60	R	P	
			END BRIDGE	D		NE 24TH ST																								
			CHG SU LN		R	HIGH OCCUPANCY VEHICL12A																								
			CHG SU LN		L	HIGH OCCUPANCY VEHICL12A																								
8.94		8.93	MISC FEATR		R	GORE (P100874)																								
9.01		9.00	OFF RAMP		R	148TH AVE NE	ST		Y																					
			MISC FEATR		L	GORE (S100869)																								
9.02		9.01	MP MARKER		R	9																								
9.18		9.17	UXING	B		148TH AVE NE	ST																							
						BRDG NUM 520/036																								
9.19		9.18	LEAVE CITY			BELLEVUE				2	2	10A	24A		20A	JE		24A	10A	24	72	5	01	1065	U1		60	R	P	
			ENTER CITY			REDMOND																								
9.22		9.21	MISC FEATR		R	GORE (P500901)																								
9.37		9.36	MISC FEATR		R	GORE (Q100960)																								
9.43		9.42	MISC FEATR		L	GORE (R100954)																								
9.54		9.53	BEG SU LN		L	WEAVING/SPEED CHANGE 12A				2	2	10A	24A		20A	JE		24A	10A	36	84	5	01	1065	U1		60	R	P	
			OFF RAMP		L	148TH AVE NE	ST		Y																					
9.60		9.59	ON RAMP		R	148TH AVE NE	ST		Y																					
9.67		9.66	UXING	B		NE 36TH ST	ST																							
						BRDG NUM 005/36.5																								
9.69		9.68	END SU LN		L	WEAVING/SPEED CHANGE 12A				2	2	10A	24A		20A	JE		24A	10A	24	72	5	01	1065	U1		60	R	P	
			ON RAMP		L	WBCD LANE	ST		Y																					
9.72		9.71	OFF RAMP		R	EBCD LANE	ST		Y																					
9.85		9.84	MISC FEATR		R	GORE (CI00972)				2	2	10A	24A		20A	JE		24A	8A	24	72	5	01	1065	U1		60	R	P	
9.99		9.98	MISC FEATR		L	GORE (CD01122)																								
10.02		10.01	MP MARKER		R	10																								
10.14		10.13	UXING	B		NE 40TH ST	ST																							
						BRDG NUM 520/037																								
10.48		10.47								3	2	10A	36A		20A	JE		24A	8A	24	84	5	01	1065	U1		60	R	P	
10.63		10.62	BEG SU LN		L	CLIMBING 12A				3	2	4A	36A		20A	JE		24A	8A	36	96	5	01	1065	U1		60	R	P	
10.74		10.73	UXING	B		NE 51ST ST	ST			2	2	4A	24A		20A	JE		24A	8A	36	84	5	01	1065	U1		60	R	P	
						BRDG NUM 520/038																								

SR 520 MAINLINE STATE ROUTE - SRSH COUNTY KING DOT DISTRICT 1

SRMP	B	ARM	FEATURE	D	LR	DESCRIPTION	-BRIDGE- -UXING- -XROAD- OW	TC	L	NBR LNS D	I	DECREAS/DIV LFT SHD W/S	RDY W/S	RHT SHD W/S	MEDIAN-WD/S	BR	INCRES/UNDI LFT SHD W/S	RDY W/S	RHT SHD W/S	SPC USE LNS WID	TOT RDY WID	MTCE A	SE	CITY NBR	ST FC	LEGAL SPEED D	IB	T R	P K	S T
										-------WIDTH AND SURFACE INFORMATION-------												------CLASSIFICATIONS---							
10.96		10.95								2	2	4A	24A		20A	JE		24A	8A	36	84	5	01	1065	U1		60	R	P	
10.97		10.96	MISC FEATR		R	GORE (CI00972)				2	2	4A	24A		20A	JE		24A	10A	36	84	5	01	1065	U1		60	R	P	
11.01		11.00	MP MARKER		R	11																								
11.12		11.11	MISC FEATR		L	GORE (CD01122)																								
11.19		11.18	UXING	B		NE 60TH ST	ST																							
						BRDG NUM 520/039																								
11.22		11.21	OFF RAMP		L	WBCD LANE	ST		Y																					
11.35		11.34	ON RAMP		R	EBCD LANE	ST		Y	2	2	10A	24A		20A	JE		24A	10A	36	84	5	01	1065	U1		60	R	P	
11.43		11.42	ON RAMP		L	W LK SAMMAMISH PRKWY NE	ST		Y																					
11.46		11.45	OFF RAMP		R	W LK SAMMAMISH PRKWY NE	ST		Y																					
11.63		11.62	END SU LN		L	HIGH OCCUPANCY VEHICL12A				3	2	10A	36A		20A	JE		24A	10A	24	84	5	01	1065	U1		60	R	P	
11.64		11.63	MISC FEATR		L	GORE (S101143)																								
11.66		11.65	END SU LN		L	CLIMBING 12A				3	2	10A	36A		20A	JE		24A	10A	12	72	5	01	1065	U1		60	R	P	
			MISC FEATR		R	GORE (P101146)																								
11.80		11.79	CHG SU LN		R	HIGH OCCUPANCY VEHICL12P				3	2	$$W	46P	W	2O	$$	W	34P	$$W	12	92	5	01	1065	U1		60	L	P	
			BEG BRIDGE	I		W LK SAMMAMISH PRKWY NE	ST																							
						BRDG NUM 520/042S																								
			BEG BRIDGE	D		W LK SAMMAMISH PRKWY NE	ST																							
						BRDG NUM 520/042N																								
11.87		11.86	END BRIDGE	I		W LK SAMMAMISH PRKWY NE				3	2	10A	36A	$	20A	JE	$	24A	10A	12	72	5	01	1065	U1		60	L	P	
			END BRIDGE	D		W LK SAMMAMISH PRKWY NE																								
			CHG SU LN		R	HIGH OCCUPANCY VEHICL12A																								
11.92		11.91	MISC FEATR		L	GORE (R501205)																								
11.93		11.92	MISC FEATR		R	GORE (Q501201)																								
12.01		12.00	BEG SU LN		R	WEAVING/SPEED CHANGE 12A				3	2	10A	36A		20A	JE		24A	10A	24	84	5	01	1065	U1		60	L	P	
			MP MARKER		B	12																								
			ON RAMP		R	W LK SAMMAMISH PRKWY NE	ST		Y																					
12.05		12.04	BEG SU LN		L	WEAVING/SPEED CHANGE 12A				3	2	10A	36A		20A	JE		24A	10A	36	96	5	01	1065	U1		60	L	P	
			OFF RAMP		L	W LK SAMMAMISH PRKWY NE	ST		Y																					
12.26		12.25	END SU LN		R	WEAVING/SPEED CHANGE 12A				3	2	10A	36A		20A	JE		24A	10A	24	84	5	01	1065	U1		60	L	P	
			OFF RAMP		R	SR 202	ST		Y																					
12.38		12.37	END SU LN		L	WEAVING/SPEED CHANGE 12A				3	2	10A	36A		20A	JE		24A	10A	12	72	5	01	1065	U1		60	L	P	
			ON RAMP		L	SR 202	ST		Y																					
12.43		12.42								2	2	10A	24A		20A	JE		24A	10A	12	60	5	01	1065	U1		60	L	P	
12.46		12.45	MISC FEATR		R	GORE (P101226)																								
12.58		12.57	MISC FEATR		L	GORE (S101238/S201238)																								
12.74		12.73	CHG SU LN		R	HIGH OCCUPANCY VEHICL12P				2	2	$$W	34P		20P	JE		34P	$$W	12	80	5	01	1065	U1		60	L	P	
			BEG BRIDGE	B		SR 202	ST																							
						BRDG NUM 520/046																								
12.83		12.82	END BRIDGE	B		SR 202																								
			END SU LN		R	HIGH OCCUPANCY VEHICL12P																								
			END CTLSEC			CONTROL SECTION 1757																								
			END ROUTE																											

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Appendix C:

Interchanges

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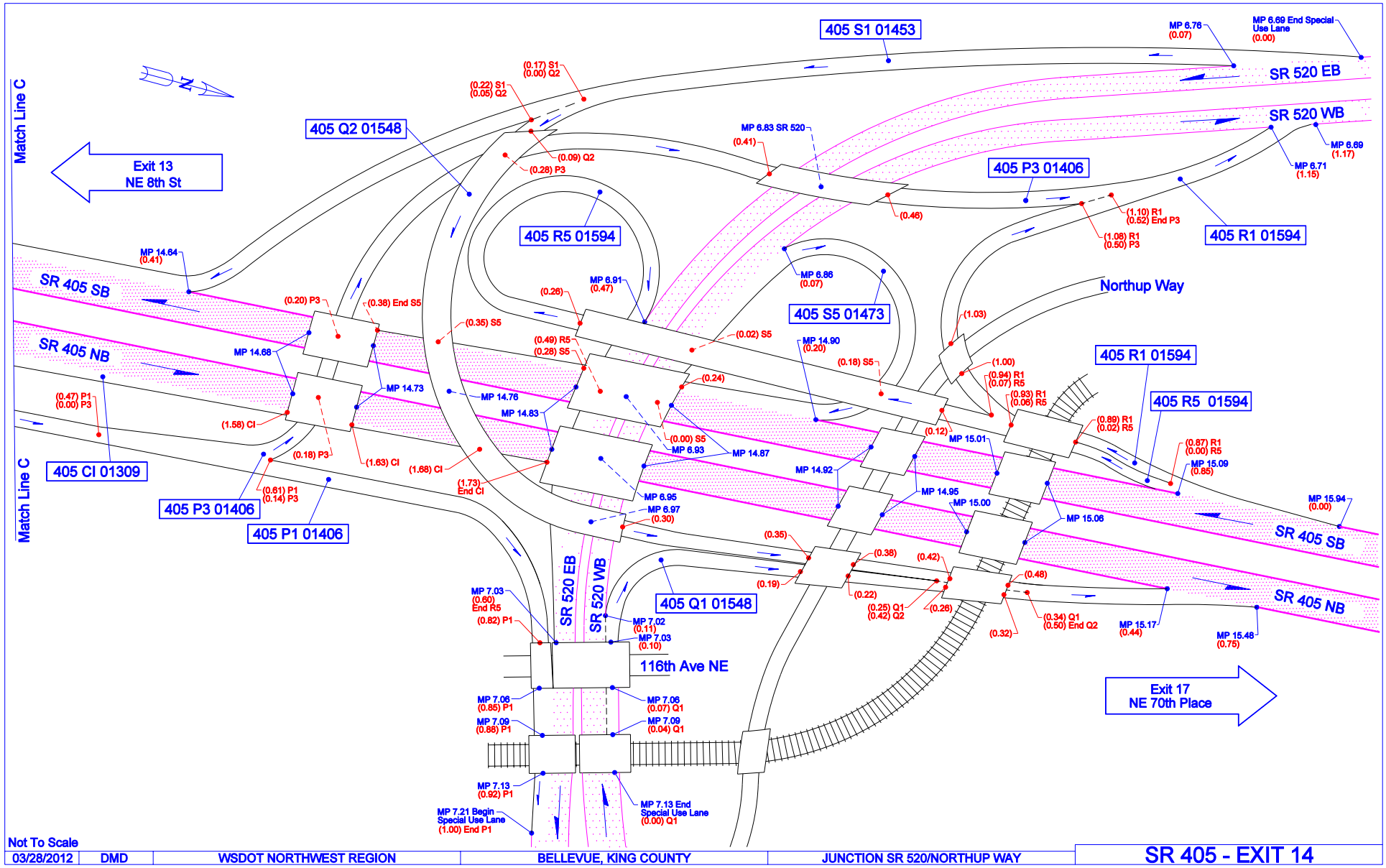
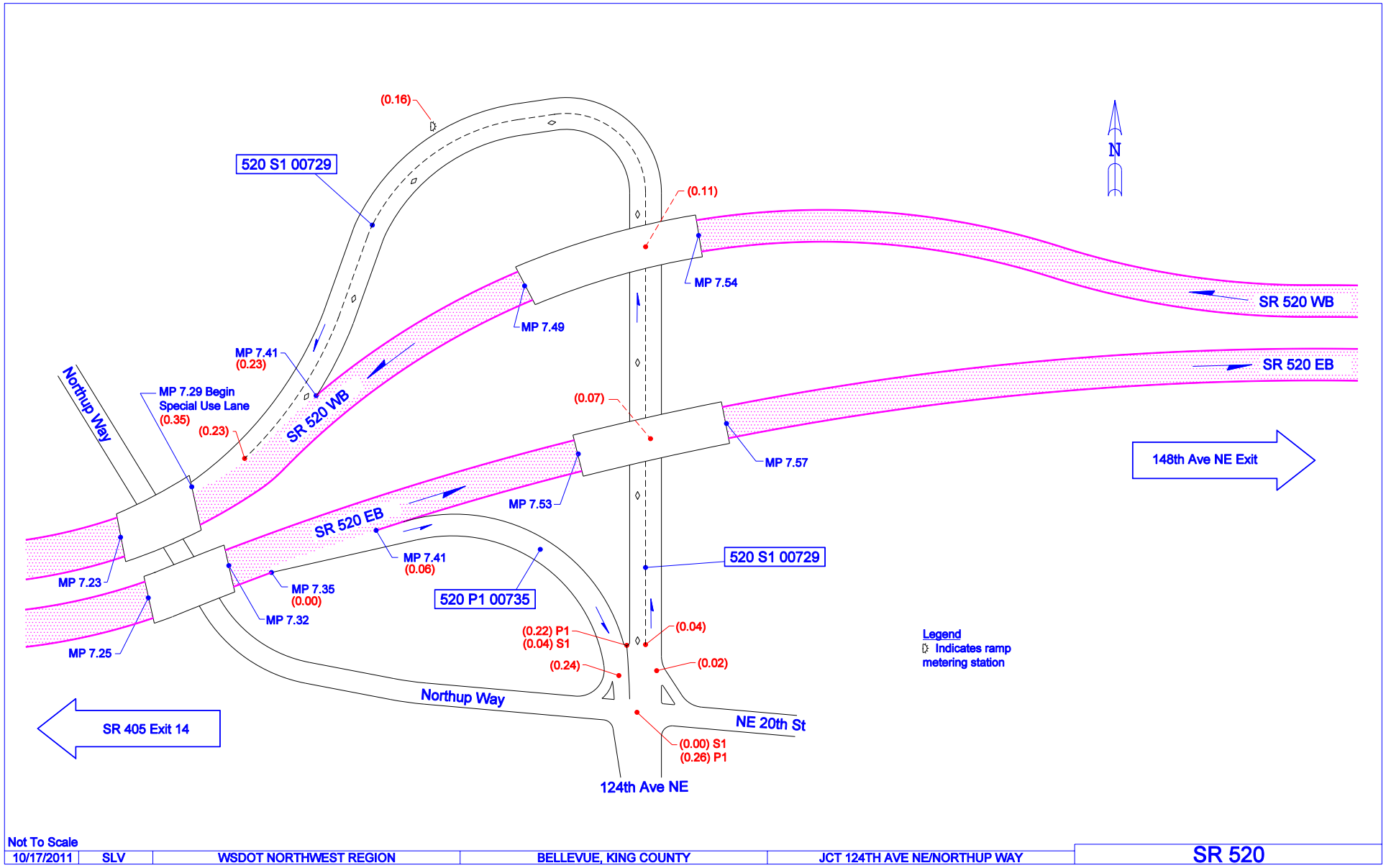
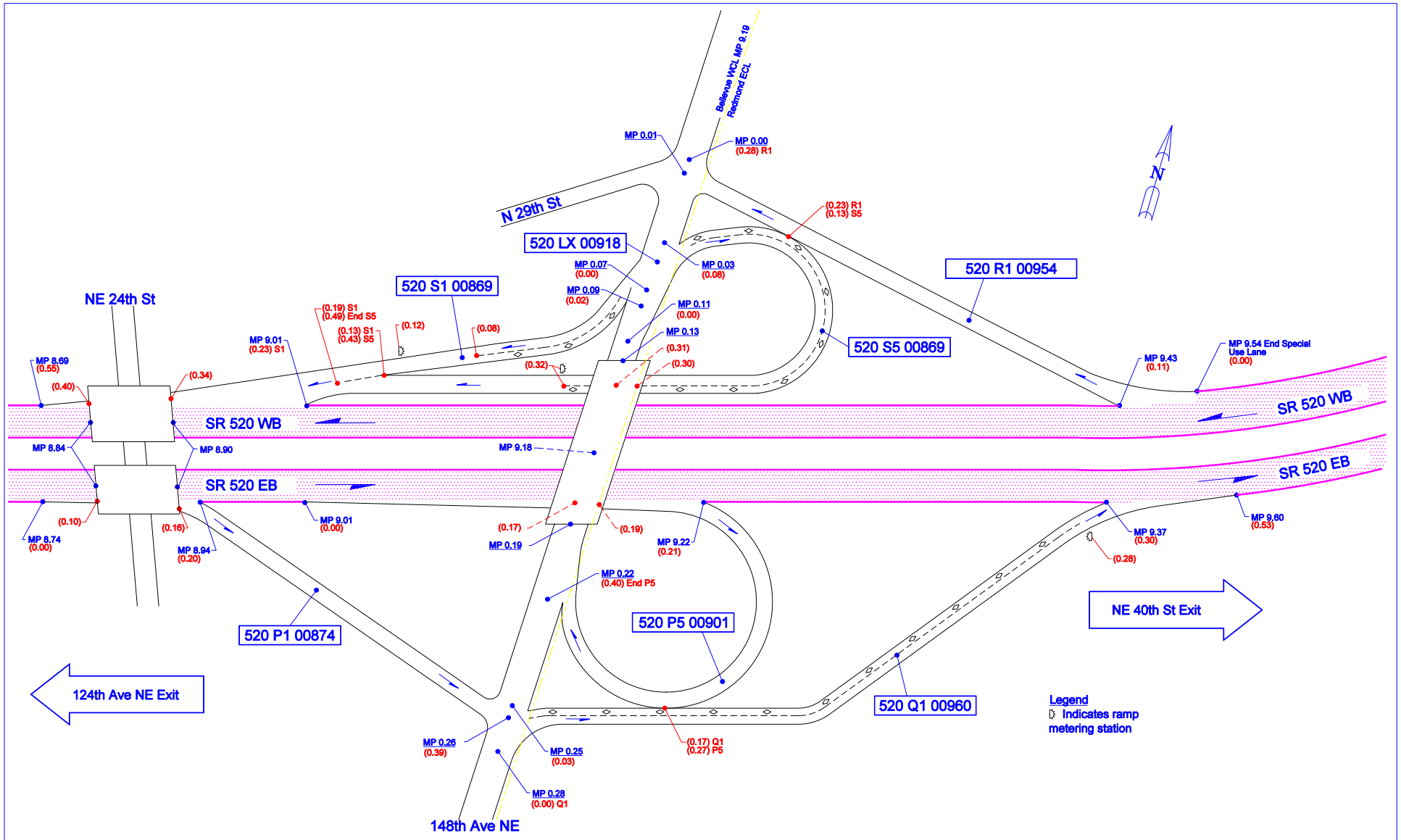
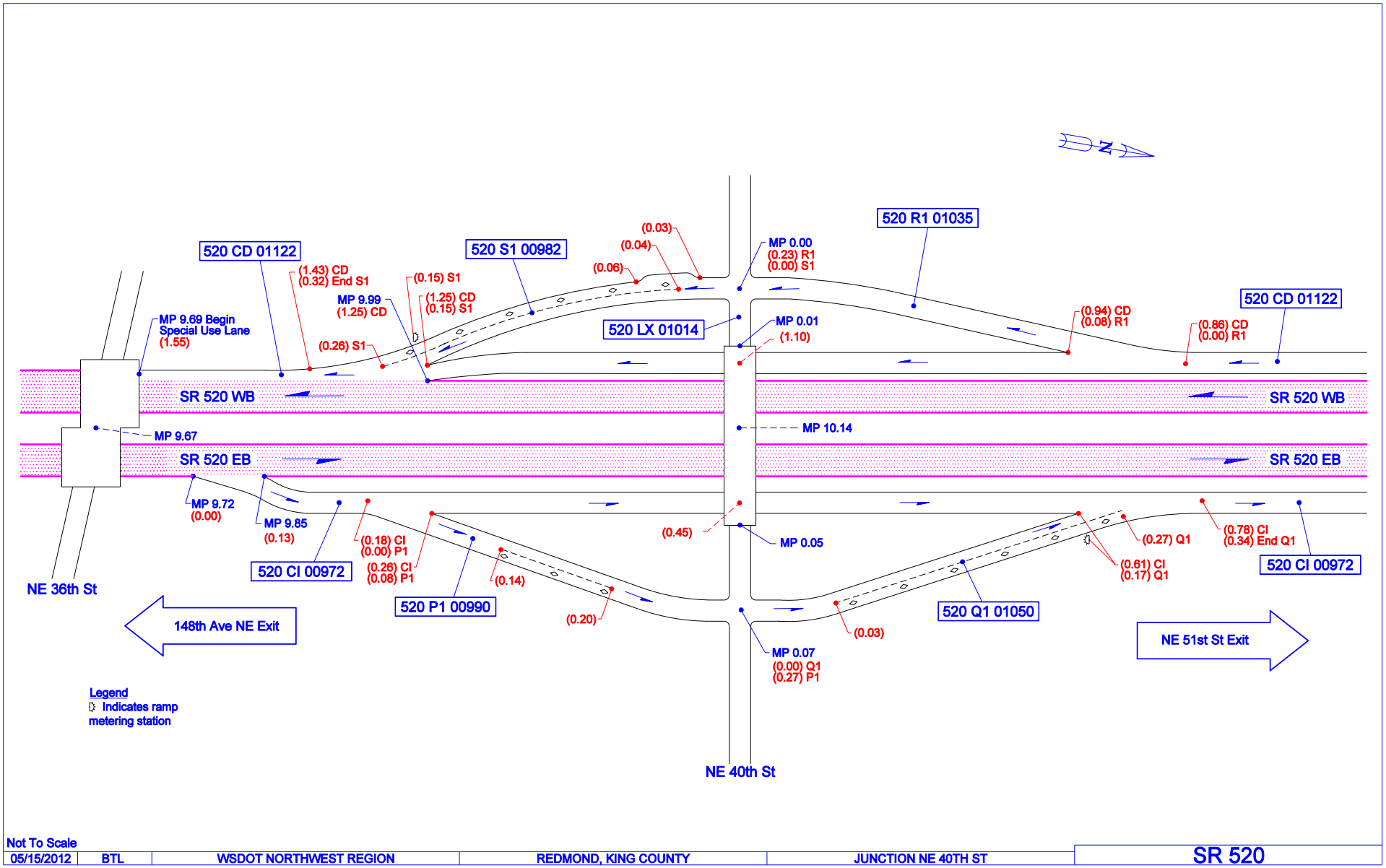

Match Line C
Exit 13
NE 8th St
405 S1 01453
405 Q2 01548
405 R5 01594
405 P3 01406
405 R1 01594
405 S5 01473
405 R1 01594
405 R5 01594
405 CI 01309
405 P3 01406
405 P1 01406
405 Q1 01548
SR 520 EB
SR 520 WB
SR 405 SB
SR 405 NB
Northup Way
116th Ave NE
Exit 17
NE 70th Place
MP 6.76 (0.07)
MP 6.69 End Special Use Lane (0.00)
MP 6.69 (1.17)
MP 6.71 (1.15)
MP 6.83 SR 520 (0.41)
MP 14.64 (0.41)
MP 14.68
MP 14.73
MP 14.76
MP 14.83
MP 14.87
MP 6.91 (0.47)
MP 6.86 (0.07)
MP 14.90 (0.20)
MP 15.01
MP 14.92
MP 14.95
MP 15.00
MP 15.06
MP 15.09 (0.85)
MP 15.94 (0.00)
MP 15.17 (0.44)
MP 15.48 (0.75)
MP 6.93
MP 6.95
MP 6.97 (0.30)
MP 7.03 (0.60) End R5
MP 7.02 (0.11)
MP 7.03 (0.10)
MP 7.06 (0.85) P1
MP 7.06 (0.07) Q1
MP 7.09 (0.88) P1
MP 7.09 (0.04) Q1
MP 7.13 (0.92) P1
MP 7.21 Begin Special Use Lane (1.00) End P1
MP 7.13 End Special Use Lane (0.00) Q1
(0.17) S1 (0.00) Q2
(0.22) S1 (0.05) Q2
(0.09) Q2
(0.28) P3
(0.46)
(1.10) R1 (0.52) End P3
(1.08) R1 (0.50) P3
(0.20) P3
(0.38) End S5
(0.35) S5
(0.26)
(0.49) R5
(0.28) S5
(0.02) S5
(0.24)
(0.18) S5
(1.03)
(1.00)
(0.94) R1 (0.07) R5
(0.93) R1 (0.06) R5
(0.89) R1 (0.02) R5
(0.87) R1 (0.00) R5
(0.12)
(0.00) S5
(0.47) P1 (0.00) P3
(1.58) CI
(0.18) P3
(1.63) CI
(1.68) CI
(1.73) End CI
(0.61) P1 (0.14) P3
(0.35)
(0.38)
(0.42)
(0.19)
(0.22)
(0.25) Q1 (0.42) Q2
(0.26)
(0.48)
(0.34) Q1 (0.50) End Q2
(0.32)
Not To Scale
03/28/2012
DMD
WSDOT NORTHWEST REGION
BELLEVUE, KING COUNTY
JUNCTION SR 520/NORTHUP WAY
SR 405 - EXIT 14


(0.16)
520 S1 00729
(0.11)
N
MP 7.54
SR 520 WB
MP 7.49
MP 7.41
(0.23)
SR 520 EB
Northup Way
MP 7.29 Begin
Special Use Lane
(0.35)
(0.23)
SR 520 WB
(0.07)
MP 7.57
148th Ave NE Exit
MP 7.53
SR 520 EB
MP 7.41
(0.06)
520 S1 00729
MP 7.23
MP 7.35
(0.00)
520 P1 00735
MP 7.32
(0.22) P1
(0.04) S1
(0.04)
MP 7.25
(0.24)
(0.02)
Legend
Indicates ramp
metering station
Northup Way
NE 20th St
SR 405 Exit 14
(0.00) S1
(0.26) P1
124th Ave NE
Not To Scale
10/17/2011
SLV
WSDOT NORTHWEST REGION
BELLEVUE, KING COUNTY
JCT 124TH AVE NE/NORTHUP WAY
SR 520



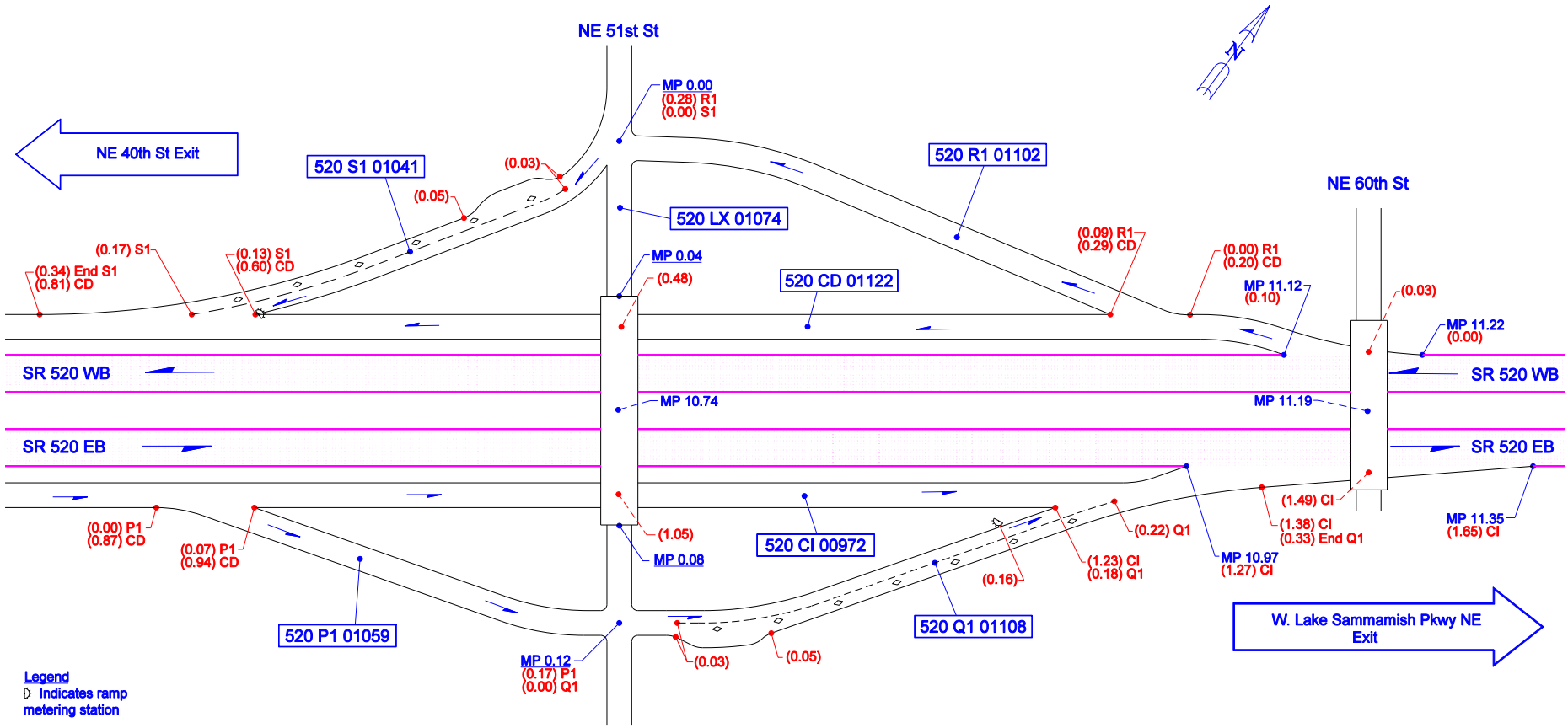
Not To Scale

10/18/2011	KLK	WSDOT NORTHWEST REGION	BELLEVUE, KING COUNTY	JUNCTION 148TH AVE NE	SR 520



Not To Scale

05/15/2012	BTL	WSDOT NORTHWEST REGION	REDMOND, KING COUNTY	JUNCTION NE 40TH ST	SR 520



Not To Scale

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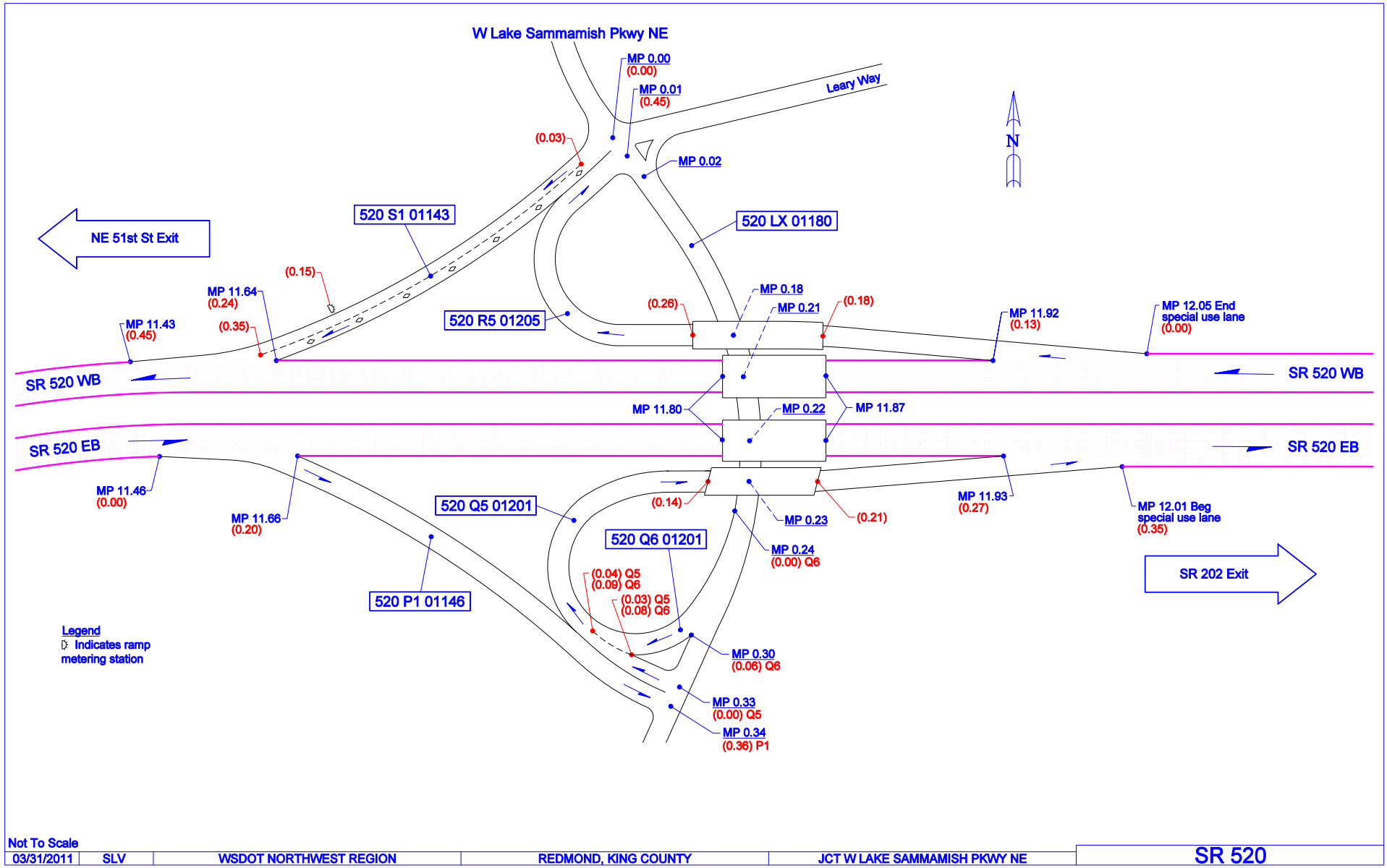
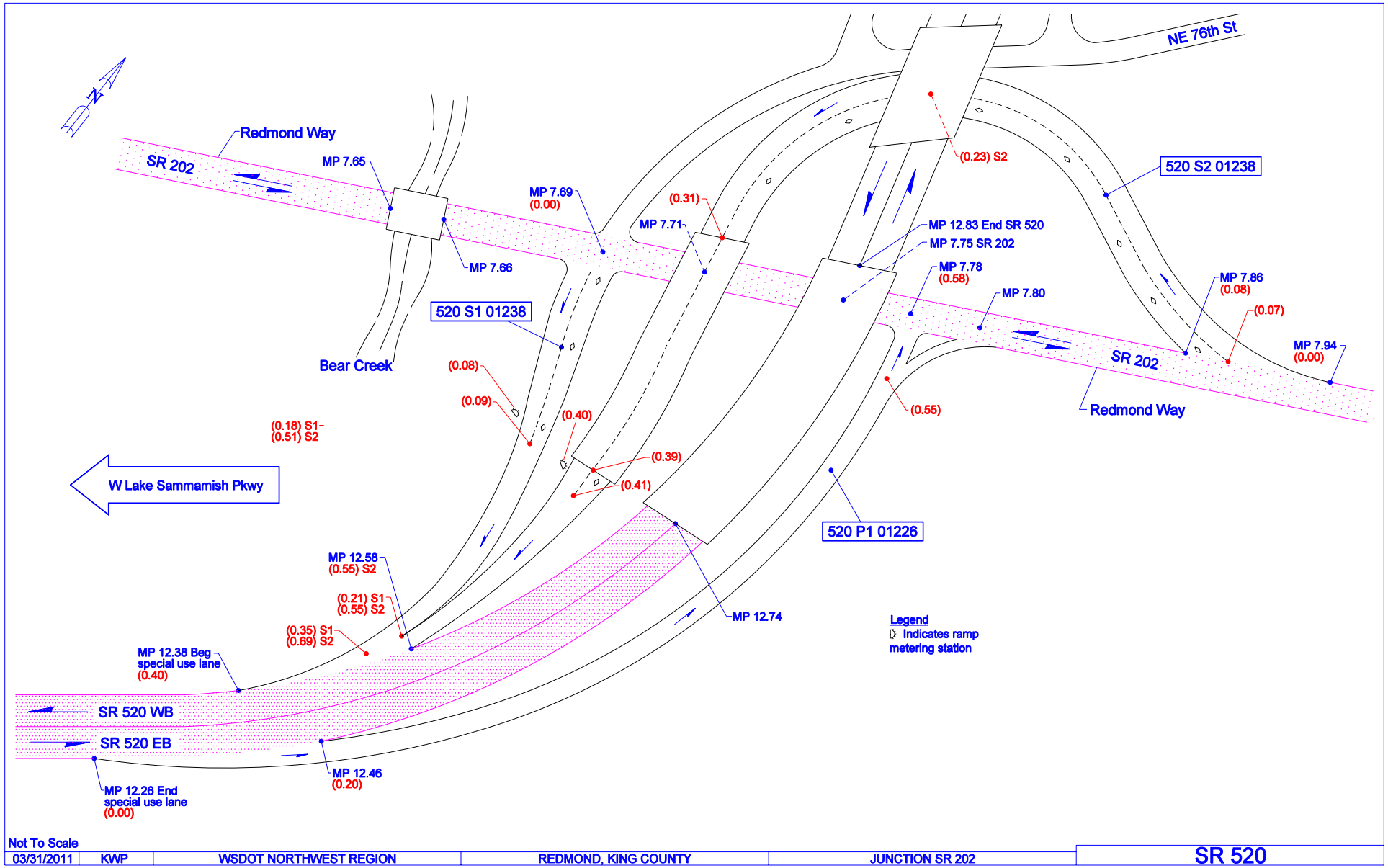

W Lake Sammamish Pkwy NE
MP 0.00
(0.00)
MP 0.01
(0.45)
Leary Way
(0.03)
MP 0.02
N
520 S1 01143
520 LX 01180
NE 51st St Exit
(0.15)
MP 11.64
(0.24)
MP 11.43
(0.45)
(0.35)
520 R5 01205
(0.26)
MP 0.18
MP 0.21
(0.18)
MP 11.92
(0.13)
MP 12.05 End
special use lane
(0.00)
SR 520 WB
SR 520 WB
MP 11.80
MP 0.22
MP 11.87
SR 520 EB
SR 520 EB
MP 11.46
(0.00)
MP 11.66
(0.20)
520 Q5 01201
(0.14)
MP 0.23
(0.21)
MP 11.93
(0.27)
MP 12.01 Beg
special use lane
(0.35)
520 Q6 01201
MP 0.24
(0.00) Q6
SR 202 Exit
(0.04) Q5
(0.09) Q6
(0.03) Q5
(0.08) Q6
520 P1 01146
Legend
Indicates ramp
metering station
MP 0.30
(0.06) Q6
MP 0.33
(0.00) Q5
MP 0.34
(0.36) P1
Not To Scale
03/31/2011
SLV
WSDOT NORTHWEST REGION
REDMOND, KING COUNTY
JCT W LAKE SAMMAMISH PKWY NE
SR 520


NE 76th St
Redmond Way
SR 202
MP 7.65
MP 7.66
MP 7.69
(0.00)
(0.31)
MP 7.71
(0.23) S2
520 S2 01238
MP 12.83 End SR 520
MP 7.75 SR 202
MP 7.78
(0.58)
MP 7.80
MP 7.86
(0.08)
(0.07)
MP 7.94
(0.00)
520 S1 01238
Bear Creek
(0.08)
(0.09)
(0.40)
(0.18) S1
(0.51) S2
(0.39)
(0.41)
(0.55)
SR 202
Redmond Way
W Lake Sammamish Pkwy
520 P1 01226
MP 12.58
(0.55) S2
(0.21) S1
(0.55) S2
(0.35) S1
(0.69) S2
MP 12.38 Beg
special use lane
(0.40)
MP 12.74
Legend
Indicates ramp
metering station
SR 520 WB
SR 520 EB
MP 12.46
(0.20)
MP 12.26 End
special use lane
(0.00)
Not To Scale
03/31/2011
KWP
WSDOT NORTHWEST REGION
REDMOND, KING COUNTY
JUNCTION SR 202
SR 520

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Appendix D:

GHG Emissions

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How the Recommended Projects Address Climate Change

Washington State's transportation system contributes close to half of the state's greenhouse gas (GHG) emissions. WSDOT recognizes that transportation is directly connected to the climate change in two ways:

1. Transportation infrastructure is affected by climate change and,
2. Transportation contributes to climate change by producing greenhouse gases (GHG).

The transportation system needs to be able to adapt to changing climate as well as reduce its contribution to increased greenhouse gas emissions. However, addressing climate change effectively is challenging; GHG emissions from a single project are usually very small and difficult to measure. Therefore, WSDOT believes that transportation GHG emissions are better addressed at a broader region, state or national level where multiple projects can be analyzed in aggregate. At the project level, there are four types of GHG emissions that can be considered: operational, construction, embodied and lifecycle emissions.

GHG Emissions

Operational GHG emissions are released by vehicles using project roadways. The quantity of emissions released depends on the fuel type, vehicle fuel efficiency, speed of the vehicle, distance traveled, and the number of vehicles on a roadway. In general, operational emissions are the largest category of GHG emissions released by the transportation sector: Approximately 72 percent of the transportation sector's emissions are generated from on-road transport, including both passenger and freight travel.

Constructions emissions are released during project construction and primarily come from fuel burned in the equipment used to build a project, such as bulldozers, pavers, and rollers. Construction emissions can also result from increased traffic congestion caused by construction activities.

Embodied emissions are the emissions generated in producing the materials that are used in the construction process and include emissions from sourcing the raw materials from the earth and their conversion into a usable form, including the energy used in processing. Embodied emissions can be thought of as "cradle to site" emissions. For example, the emissions released while mining the coal used to manufacture the steel girders for a bridge would be considered embodied emissions.

Lifecycle emissions include emissions released during material production (embodied) and emissions released throughout a facility's lifetime, including demolition and disposal. Unlike embodied emissions, lifecycle emissions account for the durability of a product. Lifecycle emissions are often referred to as "cradle to grave" emissions.

Exhibit D.1: GHG Emissions

GHG Emissions

Project Number	Recommendations	Operational GHG emissions	Construction Emissions change	Embodied Emissions	Lifecycle emission
1	**Operational Enhancements; Intelligent Transportation Systems (ITS) with Active Traffic Management (ATM), traffic signal upgrades and optimization**	Small decrease*	Small increase	Small increase	Small increase
2	**SR 520 Interim Regional Trail Improvements (108 Avenue NE to 124th Avenue NE)** Construct bike lanes and sidewalks along existing roadway.	Small increase	Small increase	Small increase	Small increase
3	**New SR 520 Trail Alignment (108th Ave NE to 124th Ave NE)** Construct a separated 14' wide non-motorized trail on a dedicated alignment between 108th Ave NE and the proposed full interchange at 124th Ave NE.	Small increase	Small increase	Small increase	Small increase
4	**NE 124th Avenue Full Interchange (including auxiliary lanes)** Reconstruct existing half diamond interchange to full and add auxiliary lanes to 148th Avenue NE I/C.	Small increase	Small increase	Small increase	Small increase
5	**SR 520/NE 148th Avenue NE I/C Overlake Access Ramp** Constuct a grade-separated ramp for through movements to the Overlake area.	Small increase	Small increase	Small increase	Small increase
6	**SR 520/148th Avenue NE Trail Connection** Trail connection between SR 520 Regional Trail and the Overlake area.	Small increase	Small increase	Small increase	Small increase
7	**SR 520 Regional Trail Grade Separation at 148th Ave NE** Construct non-motorized tunnel under 148th Ave NE and supporting structures as needed on the north side of the interchange.	Small increase	Small increase	Small increase	Small increase
8	**SR 520 Eastbound Auxiliary Lane - 148th Ave NE to NE 40th Street** Add an eastbound auxiliary lane between 148th Ave NE and NE 40th St.	Small increase	Small increase	Small increase	Small increase

GHG Emissions

Project Number	Recommendations	Operational GHG emissions	Construction Emissions change	Embodied Emissions	Lifecycle emission
9	**SR 520 Trail Grade Separation at NE 40th Street** Construct non-motorized tunnel under NE 40th St on the west side of the interchange.	Small increase	Small increase	Small increase	Small increase
10	**Overlake Village Station Pedestrian Bicycle Bridge (SR 520/152nd Ave NE)** Construct a new bicycle and pedestrian bridge over SR 520 locating the southern landing at the East Link Light Rail Overlake Village Station and Overlake Regional Growth Center with the north landing at the 520 Regional Trail and employment area.	Small increase	Small increase	Small increase	Small increase
11	**Overlake Transit Center Pedestrian-Bicycle Bridge (SR 520/NE 40th Street/156th Ave NE)** Design a new bicycle and pedestrian bridge over SR 520 south of NE 40th Street, locating the eastern landing at the East Link Light Rail Overlake Transit Center Station and Overlake Regional Growth Center with the west landing at the 520 Regional Trail and employment area.	Small increase	Small increase	Small increase	Small increase
12	**SR 520 Trail Grade Separation at NE 51st Street (SR 520/NE 51st St)** Construct non-motorized tunnel under NE 51st St on the west side of the interchange.	Small increase	Small increase	Small increase	Small increase
13	**Eastbound Shoulder Bus Lane (NE 51st to WLSP)** Construct shoulder lane for bus use between NE 51st St to WLSP.	Small increase	Small increase	Small increase	Small increase
14	**SR 520 Eastbound Auxiliary Lane - NE 51st Street eastbound on-ramp to WLSP** Add an eastbound lane from NE 51st Street on-ramp to West Lake Sammamish Parkway off-ramp.	Small increase	Small increase	Small increase	Small increase
15	**SR 520 Westbound Auxiliary Lane - WLSP to NE 51st Street** Add a westbound lane from West Lake Sammamish Parkway on-ramp to NE 51st Street off-ramp.	Small increase	Small decrease	Small increase	Small increase
16	**NE 51st/NE 40th Westbound Exit Ramp Modifications** Reconfigure the one lane exit into two separate exits by constructing a new exit for 40th Street about 1/2 mile further west of the existing exit.	Small decrease	Small increase	Small increase	Small increase

GHG Emissions

Project Number	Recommendations	Operational GHG emissions	Construction Emissions change	Embodied Emissions	Lifecycle emission
17	**SR 520/WLSP Eastbound Off Ramp Improvements** Construct either a multilane roundabout or exclusive right turn lane at the ramp terminal.	Small decrease	Small increase	Small increase	Small increase
18	**SR 520/West Lake Sammamish Parkway and Leary Way Interchange Improvements** Construct either a multilane roundabout or double left turn lanes (WLSP southbound to Leary Way eastbound) and add a lane on Leary Way from West Lake Sammamish Parkway to the bridge over the Sammamish River.	Small decrease	Small increase	Small increase	Small increase
19	**SR 520 Trail Grade Separation at West Lake Sammamish Parkway** Construct a non-motorized overpass of West Lake Sammamish Parkway that connects the end of the SR 520 Regional Trail to the Sammamish River Regional Trail.	Small increase	Small increase	Small increase	Small increase
20	**East Lake Sammamish Parkway Regional Trail** Connection (SR 520/SR 202) SR 520/SR202 Interchange Improvements at WB Ramps/SR 202 Intersection Construct missing segment of trail system through interchange.	Small increase	Small increase	Small increase	Small increase
21	**SR 520/SR 202 Interchange Improvements at WB Ramps/ SR 202 Intersection** Modify the bridge over Bear Creek to add a vehicular lane, providing a double left turn lane on Redmond Way to improve traffic flow and reduce conflict between motorized and pedestrian and bicycle traffic at the SR 520 and 202 Interchange. In addition, this project will construct a pedestrian and bicycle bridge on the south side of the bridge over Bear Creek to provide safe passage for non-motorized user.	Small increase	Small increase	Small increase	Small increase
22	**SR 520/Avondale Road/ Union Hill Road Intersection Improvements** Construct either a grade separation of SR 520 over Union Hill Road or a flyover ramp from westbound Union Hill Road to westbound SR 520.	Small decrease	Small increase	Small increase	Small increase

** Where a small decrease in operational emissions is indicated in the table, this qualitative evaluation is based on the assumption that fewer vehicles will be idling after construction of the proposed improvement. Fewer idling vehicles equals a decrease in operational GHG emissions.*