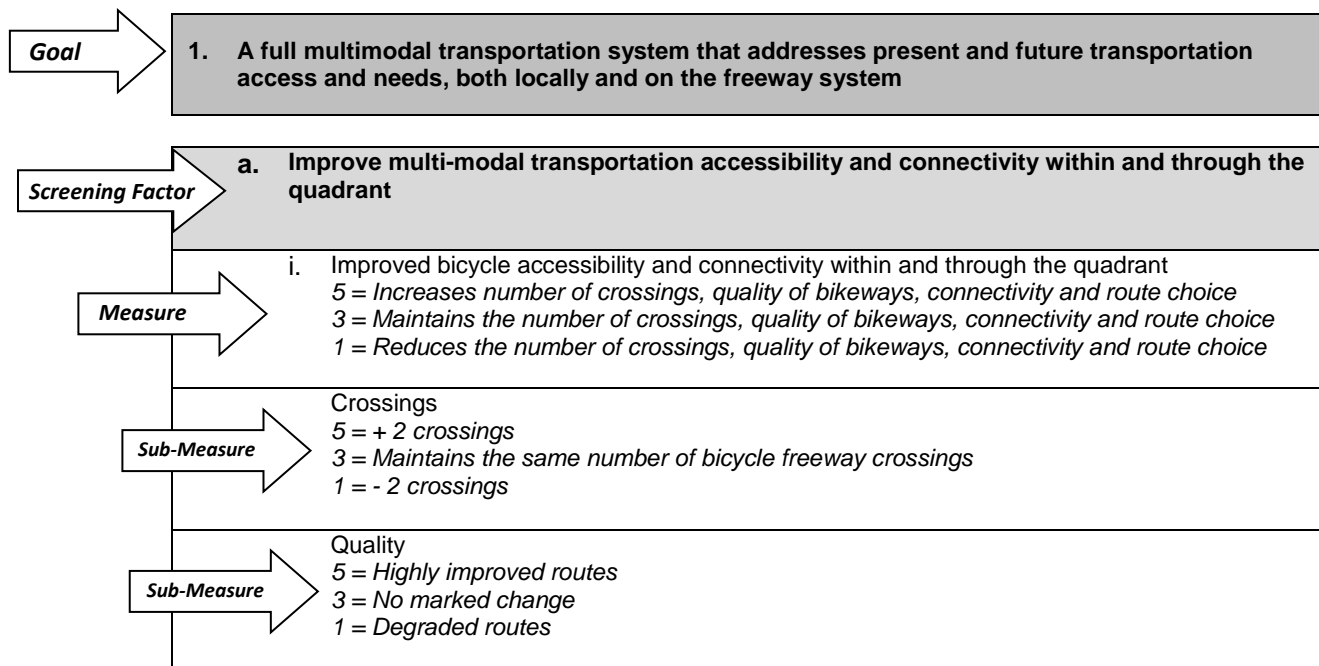


**N/NE Quadrant and I-5 Broadway/Weidler Plans  
Phase 2 Screening  
Evaluation Methodology  
July 21, 2011**

In the Phase 2 Screening, each concept was evaluated against each of the Phase 2 Screening Factors. These screening factors were made up of the project Goals and Objectives and provided a framework for the evaluation. A series of matrices was developed to summarize the evaluation. The summary matrix provides a rating for each screening factor at the level of the Objective. These ratings are on a scale of one (poor) to five (very good). Within each of the Objective level rankings in the summary matrix are backup data that are shown in the technical matrix.

The backup data varies depending on the evaluation criteria. Generally, each Objective consists of one or more measures. Some of the measures are broken down further into sub-measures to accurately rank each concept. For example, under Objective 1a., there are three measures – i., ii., and iii. Measure i. which includes both connectivity and quality rankings, is further broken down into sub-measures. The attached pages show the measures and sub-measures for each screening factors, as shown in the following example.



Each measure or sub-measure (where used) was given a ranking of 1 to 5, where 1 is the worst ranking and 5 is the best. For several criteria, a ranking of 3 is neutral with higher numbers denoting an improvement and lower numbers denoting a degradation of condition. In other criteria, such as impacts to properties, 5 represents no impact and anything less represents varying levels of impact or risk of impact.

In order to summarize the evaluation results, the following methodology was utilized. Where there are sub-measures, these were averaged to obtain a number from 1 to 5 at the level of the measure. This number was rounded to the nearest whole number. Rounding enables the use of the simple 1 to 5 scale at each evaluation level in order to keep the results simple and digestible.

Then each measure within each Objective was averaged to arrive at a score for each Objective. This score was also rounded to the nearest whole number. These scores are shown on the summary matrix.

## Freeway/Local Transportation Interface Screening Factors and Measures

The following are the measures and factors used to rank the Freeway/Local Transportation Interface concepts.

<b>1. A full multimodal transportation system that addresses present and future transportation access and needs, both locally and on the freeway system</b>	
<b>a. Improve multi-modal transportation accessibility and connectivity within and through the quadrant</b>	
i.	<p>Improved bicycle accessibility and connectivity within and through the quadrant  <i>5 = Increases number of crossings, quality of bikeways, connectivity and route choice</i>  <i>3 = Maintains the number of crossings, quality of bikeways, connectivity and route choice</i>  <i>1 = Reduces the number of crossings, quality of bikeways, connectivity and route choice</i></p>
	<p>Crossings  <i>5 = + 2 crossings</i>  <i>3 = Maintains the same number of bicycle freeway crossings</i>  <i>1 = - 2 crossings</i></p>
	<p>Quality  <i>5 = Highly improved routes</i>  <i>3 = No marked change</i>  <i>1 = Degraded routes</i></p>
	<p>RDI / Route Choice: East to West  <i>5 = Increases RDI and route choice</i>  <i>3 = Maintains the same number of connectivity/route choice</i>  <i>1 = Decreases RDI and route choice</i></p>
	<p>RDI / Route Choice: North to South  <i>5 = Increases RDI and route choice</i>  <i>3 = Maintains the same number of connectivity/route choice</i>  <i>1 = Decreases RDI and route choice</i></p>
ii.	<p>Improved pedestrian accessibility and connectivity within and through the quadrant  <i>5 = Increases number of crossings, quality of walkways, connectivity and route choice</i>  <i>3 = Maintains the number of crossings, quality of walkways, connectivity and route choice</i>  <i>1 = Reduces the number of crossings, quality of walkways, connectivity and route choice</i></p>
	<p>Crossings  <i>5 = + 2 crossings</i>  <i>3 = Maintains the same number of bicycle freeway crossings</i>  <i>1 = - 2 crossings</i></p>
	<p>Quality  <i>5 = Highly improved routes</i>  <i>3 = No marked change</i>  <i>1 = Degraded routes</i></p>
	<p>RDI / Route Choice: East to West  <i>5 = Increases RDI and route choice</i>  <i>3 = Maintains the same number of connectivity/route choice</i>  <i>1 = Decreases RDI and route choice</i></p>
	<p>RDI / Route Choice: North to South  <i>5 = Increases RDI and route choice</i>  <i>3 = Maintains the same number of connectivity/route choice</i>  <i>1 = Decreases RDI and route choice</i></p>

iii.	<p>Improve local street circulation and freeway crossing opportunities  <i>5 = Increases number of local street freeway crossings</i>  <i>3 = Maintains the same number of local street freeway crossings</i>  <i>1 = Reduces the number of local street freeway crossings</i></p>
	<p>Local Street Circulation  <i>5 = Increases circulation options</i>  <i>3 = Maintains the same level of circulation</i>  <i>1 = Decreases circulation options</i></p>
	<p>Freeway Crossing Opportunities  <i>5 = Increases crossing opportunities</i>  <i>3 = Maintains crossing opportunities</i>  <i>1 = Decreases crossing opportunities</i></p>

**b. Increase safety for all modes**

i.	<p>Construct/provide user friendly ramp terminal intersections  <i>5 = Less complex, easier crossings for users</i>  <i>3 = Same complexity as today, some difficult crossings</i>  <i>1 = More complex, more difficult crossings</i></p>
ii.	<p>Provide pedestrian and bicycle infrastructure and minimize pedestrian and bicycle conflicts with motor vehicles  <i>5 = Reduces the number of pedestrian and bicycle conflict points</i>  <i>3 = Maintains the same number of pedestrian and bicycle conflict points</i>  <i>1 = Increases the number of pedestrian and bicycle conflict points</i></p>

**c. Improve freight access from freeway to industrial areas and major destinations**

i.	<p>Freeway on/off ramps designed to facilitate freight travel  <i>5 = Ramp location accommodates all trucks</i>  <i>3 = Ramp location meets most freight needs</i>  <i>1 = Ramp location poorly meets freight needs</i></p>
	<p>Ramp Location  <i>5 = Decreases out-of-direction travel</i>  <i>3 = Maintains the same level of access</i>  <i>1 = Increases out-of-direction travel</i></p>

**2. Safe traffic operations and freight mobility on I-5 and locally, with improved interface between the freeways and the local street system, and increased local connectivity to adjacent areas and land uses**

**a. Improve freeway operations for freight and auto**

i.	<p>Improve weaving lengths on I-5 at Broadway/Weidler  <i>5 = Lengthens and improves at least 2 weave sections</i>  <i>3 = Lengthens and improves one weave section</i>  <i>1 = Does not lengthen or improve any weave sections</i></p>
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**b. Improve freeway safety**

i.	<p>Maintain or reduce risk of queues backing up onto freeway mainline  <i>5 = Very low risk of freeway queuing</i>  <i>3 = Some risk of freeway queuing</i>  <i>1 = High risk of freeway queuing</i></p>
	Northbound
	Southbound

<b>c. Improve the local circulation system for safe access for all transportation modes within the quadrant and freeway interchange</b>	
i.	Maintain or improve local traffic operations in "the Box" <i>5 = Box intersections have both better LOS and reduced queuing</i> <i>3 = Box intersections have either better LOS or reduced queuing</i> <i>1 = Box intersections have neither better LOS nor reduced queuing</i>
	Average Intersection LOS within "the Box" <i>5 = LOS A or B</i> <i>3 = LOS D</i> <i>1 = LOS F</i>
	Worst Intersection LOS within "the Box" <i>5 = LOS A or B</i> <i>3 = LOS D</i> <i>1 = LOS F</i>
	Total length of queuing within "the Box" (non-freeway) <i>5 = Decreased</i> <i>3 = Same</i> <i>1 = Increased</i>
	Intersections blocked by queuing within "the Box" <i>5 = Decreased</i> <i>3 = Same</i> <i>1 = Increased</i>

**3. Equitable access to community amenities and economic opportunities**

<b>a. Avoid/minimize/mitigate involuntary displacement of quadrant residents and jobs</b>	
i.	Minimize risk of displacement of key employment and residential sites adjacent to I-5 <i>5 = No risk of displacement or other impact to listed facility</i> <i>4 = No risk of displacement. Some risk of circulation, access, parking or other impact</i> <i>3 = Some risk of displacement or major functional changes to listed facility</i> <i>2 = Moderate risk of displacement or major functional changes to listed facility</i> <i>1 = High risk of displacement or major functional changes to listed facility</i>
	- Rose Garden Arena
	- Convention Center
	- Madrona Studios
	- Left Bank
	- Paramount Apartments
	- Eliot Conservation Area
ii.	Minimize number of buildings demolished or properties made obsolete by reduced parking <i>5 = Property impacts limited to minor right-of-way expansion only. No buildings displaced.</i> <i>4 = 2-3 buildings would be demolished or would lose a significant amount of parking or access</i> <i>3 = 4-5 buildings would be demolished or would lose a significant amount of parking or access</i> <i>2 = 6-8 buildings would be demolished or would lose a significant amount of parking or access</i> <i>1 = More than 8 buildings would be demolished or would lose a significant amount of parking or access</i>

#### 4. Protection and enhancement of the cultural heritage of the area and its sub-districts

##### a. Avoid/minimize/mitigate demolition of historic and cultural resources

- i. Avoid existing landmarks and potentially eligible historic structures  
5 = No risk of demolition of existing landmarks and potentially eligible historic structures  
3 = moderate risk of demolition of existing landmarks or potentially eligible historic structures  
1 = High risk of demolition of existing landmarks or potentially eligible historic structures

- Serene Court Apartments (1130 NE 1st Ave)

- 211 NE Everett Street

- Left Bank Building (222 to 240 N Broadway)

- Paramount Apartments (253 N Broadway)

- 122 to 140 NE Broadway

- ii. Avoid culturally significant structures  
5 = No risk of demolition of culturally significant structures  
3 = Moderate risk of demolition of culturally significant structures  
1 = High risk of demolition of culturally significant structures

- 1609 NE 2nd Avenue

##### b. Avoid/minimize/mitigate impacts to parks and schools

- i. Avoid existing parks and schools  
5 = No risk of impact to parks or schools  
4 = Potential for minor right-of-way acquisition of parks or schools  
3 = Potential for minor right-of-way acquisition of parks or schools affecting internal circulation  
2 = Potential for major right-of-way acquisition of parks or schools  
1 = Potential for full acquisition of parks or schools

- Tubman School

- Albina Park

- Peace Park/Eastbank Esplanade

#### 5. Urban Design

##### a. Improve freeway edge conditions

- i. Minimize the footprint of the freeway  
5 = No expansion from existing footprint  
3 = Minimal expansion from existing footprint  
1 = Major expansion from existing footprint

##### b. Urban redevelopment opportunities

- i. Remaining/affected parcel sizes accommodate typical residential or commercial developments  
5 = Creates new or improved parcels for development  
3 = Development opportunities similar to existing  
1 = Creates less developable parcels
- ii. Maximize access to remnant/impacted parcels  
5 = Maintains existing access  
3 = Minor access impacts  
1 = Major access impacts

**c. Improve continuity of urban uses across the district**

- i. Enables good connections to major destinations  
*5 = Improves connections to major destinations*  
*3 = Maintains access to destinations equal to existing*  
*1 = Reduces ease of access to major destinations*

- ii. Enables good connections between complementary land uses  
*5 = Improves connections between neighborhoods and subdistricts*  
*3 = Maintains connections equal to existing*  
*1 = Creates obstacles to connectivity between neighborhoods and subdistricts*



Freeway/Local Transportation Interface Concepts Summary Evaluation Matrix - 07/19/11	2011 Existing Conditions	1. 2035 No-Build	2. Mainline Operational Improvements			3. Rebuild Structures with Mainline Operational Improvements	4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements					5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements						6. TSM/TDM/Operations Management				
	2011 Existing Conditions	1. 2035 No-Build	2a. Braided Ramps		2b. Collector/Distributor (C/D) Roads	3. Rebuild the Structures	4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three-Point Interchange (couplet)			5a. Standard Diamond Interchange (de-couple Broadway/Weidler)	5b. Single-Point Urban Interchange (SPUI; de-couple Broadway/Weidler)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange		5e. Three-Point Interchange (de-couple Broadway/Weidler)		6. TSM/TDM/Operations Management	
			Option 1	Option 2				Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2		Option 1	Option 2	Option 1	Option 2	
<b>1. A full multimodal transportation system that addresses present and future transportation access and needs, both locally and on the freeway system</b>																						
a. Improve multi-modal transportation accessibility and connectivity within and through the quadrant	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
b. Increase safety for all modes	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
c. Improve freight access from freeway to industrial areas and major destinations	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>2. Safe traffic operations and freight mobility on I-5 and locally, with improved interface between the freeways and local street system, and increased local connectivity to adjacent areas/land uses</b>																						
a. Improve freeway operations for freight and auto	◆	◆	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	◆
b. Improve freeway safety	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
c. Improve the local circulation system for safe access for all transportation modes within the quadrant and freeway interchange	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>3. Equitable access to community amenities and economic opportunities</b>																						
a. Avoid/minimize/mitigate involuntary displacement of quadrant residents and jobs	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>4. Protection and enhancement of the cultural heritage of the area and its sub-districts</b>																						
a. Avoid/minimize/mitigate demolition of historic and cultural resources	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
b. Avoid/minimize/mitigate impacts to parks and schools	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>5. Urban Design</b>																						
a. Improve freeway edge conditions	■	■	■	■	■	■	◆	◆	◆	■	■	■	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
b. Urban redevelopment opportunities	■	■	■	■	■	■	◆	◆	◆	■	■	■	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
c. Improve continuity of urban uses across the district	■	■	■	◆	■	■	■	■	■	■	■	■	■	◆	■	◆	■	■	■	■	■	■

■	Very Good
■	Good
■	Moderate
◆	Moderate to Poor
◆	Poor

**DRAFT FOR DISCUSSION**



# N/NE QUADRANT AND I-5 BROADWAY/WEIDLER PLANS PHASE 2 SCREENING METHODS AND RANKING

## INTRODUCTION

This memo is a compilation of the Phase 2 Screening methodologies performed by the project technical team. The team that evaluated and ranked the concepts included the following consulting firms and agencies:

- Alta Planning and Design (Mike Tresidder) – Bicycle and pedestrian
- URS Corporation (Seth Gallant and John Cullerton) – Property impacts
- DKS Associates (Alan Snook) – Traffic operations
- ZGF Architects (Charles Kelley, Nolan Lienhart) – Urban design
- ODOT (Mark Johnson) – Transportation design and engineering

The team members ranked the concepts using specific Screening Factors. The interchange design concepts that were assessed were based on the Freeway/Local Transportation Interface Concepts for Further Study Report, dated July 21, 2011. The findings from this assessment were presented to the Stakeholder Advisory Committee (SAC) at their July 28<sup>th</sup> meeting.

Each concept was evaluated against each of the Phase 2 Screening Factors. A series of matrices was developed to summarize the evaluation. The summary matrix provides a rating for each screening factor. These ratings are on a scale of one (poor) to five (very good). Each Screening Factor ranking in the summary matrix is backed up by data that are shown in the technical matrix. This document describes the methods and ranking used by the consultant team to develop the technical matrix.

The backup data in the technical matrix varies depending on the evaluation criteria. Generally, each Screening Factor consists of one or more measures. Some of the measures are broken down further into sub-measures to accurately rank each concept. For example, under Screening Factor 1a., there are three measures – i., ii., and iii. Measure i. which includes both connectivity and quality rankings, is further broken down into sub-measures.

Each measure or sub-measure (where used) was given a ranking of 1 to 5, where 1 is the poorest ranking and 5 is the best. For several criteria, a ranking of 3 is neutral - with higher numbers denoting an improvement and lower numbers denoting a degradation of the condition. With other criteria, such as impacts to properties, 5 represents no impact and anything less represents varying levels of impact or risk of impact.

The following methodology was utilized to summarize the technical results. Where there are sub-measures, these were averaged to obtain a number from 1 to 5 for the measure. This number was

rounded to the nearest whole number to enable the use of the simple 1 to 5 scale at each evaluation level.

Then each measure within each Screening Factor was averaged to arrive at a score for each Screening Factor. This score was also rounded to the nearest whole number. These scores are shown on the summary matrix.

# 1. A FULL MULTIMODAL TRANSPORTATION SYSTEM

## 1.a. Improve multi-modal transportation accessibility and connectivity within and through the quadrant

The following measures were used to measure Screening Factor 1.a.:

- 1.a.i. Improved bicycle accessibility and connectivity within and through the quadrant
- 1.a.ii. Improved pedestrian accessibility and connectivity within and through the quadrant
- 1.a.iii. Improve local street circulation and freeway crossing opportunities

### 1.a.i. Improved bicycle accessibility and connectivity within and through the quadrant and 1.a.ii. Improved pedestrian accessibility and connectivity within and through the quadrant

Alta prepared the rankings for these measures. This section provides a brief methodology and supporting analysis/rationale for the bicycle and pedestrian screening of the freeway/local transportation interface concepts.

#### ASSUMPTIONS

Alta assessed the quality of the bicycling and pedestrian environment under the interchange concepts from the perspective of an average bicyclist or pedestrian.

**Bicyclist** - For bicycling, there is a wide range of abilities and levels of confidence. The interchange concepts were ranked from the perspective of the Interested but Concerned cyclist. For the N/NE Quadrant, this means someone who would not feel comfortable riding on Broadway today by themselves initially; but who would ride on Broadway with a friend or group to become more comfortable with the traffic and intersections.



- A. Strong and Fearless (< 1%)
- B. Enthused and Confident (7%)
- C. Interested but Concerned (60%)
- D. No way, no how (33%)

**Pedestrian** - For pedestrians, levels of comfort do not vary as much as for cyclists. In order to assess the quality of the walking environment under each interchange concept, the perspective of an adult walking with one or more children was utilized.

## CRITERIA

The following criteria were used in developing the scoring for 1a.i and 1a.ii.

**Freeway Crossings** - Do the number of I-5 crossings increase, decrease, or stay the same?

For bicycles, the couplets (Broadway/Weidler & Vancouver/Williams) are considered 1 crossing, resulting in a total of 3 crossings for the Existing Conditions/No Build/Rebuild alternatives. All other options are compared to this baseline.

For pedestrians, the individual streets within the couplets are considered separate crossings (Broadway and Weidler, Vancouver and Williams), as pedestrians are not restricted in which direction they must travel on a one-way street. There are 5 total crossings for pedestrians in the baseline option. All other options are compared to this baseline.

<b>Freeway Crossings</b>	
5	2 or more crossings than baseline
4	1 more crossing than baseline
3	Maintains the same number of crossings as baseline
2	1 fewer crossing than baseline
1	2 or more fewer crossings than baseline

**Quality** - Does the overall quality of the facilities increase, decrease, or stay basically the same?

In assessing the quality of the facilities, factors considered were:

Type of facility – Is it an on-street (bike lane or sidewalk) or separated (pathway, separated crossing) facility. Separated facilities scored higher as they are more desirable to users.

Facility condition – Are the facilities going to be a new/re-built facility, or is the condition of the facility not going to change? It was assumed that anywhere a green line is shown, there will be upgrades to the existing facilities (sidewalk, bike lanes) to current city standards, which usually exceed the existing facilities currently in place.

Adjacent traffic conditions – How many lanes will be on the section of roadway, and what will be the projected traffic volumes on that roadway for the 2035 conditions? Fewer numbers of lanes and lower projected traffic volumes scored higher in the matrix. This also took into consideration the user-friendliness of the bicycle/pedestrian facility in relation to the traffic.

Quality	
5	Improvements on all factors (facility type, facility condition, and adjacent traffic conditions)
4	Improvements in some factors with no degradations
3	Maintains a similar quality to Existing Conditions
2	Degradation on some factors, with no major deteriorations
1	Overall degraded environment for biking/walking

**Connectivity / Route Choice** - Do the non-motorized facilities preserve/improve the North-South/East-West route directness, and are there greater route choices for users to make?

At this stage in the project, Alta combined the connectivity and route choice factors for ease of analysis.

North-South RDI (Route Directness Indicator) –The connection from the Eastbank Esplanade to the Vancouver/Williams corridor.

East-West RDI – The connection from Broadway/Weidler to the Broadway Bridge.

Route Choice – Are there a greater number of route choices for users?

The RDI / Route Choice was scored in both the North-South direction as well as the East-West direction. Therefore, the various freeway options may score well in one direction and less well in the other.

RDI / Route Choice	
5	Improvements in both RDI & Route Choice
4	Improvements in one factor
3	Maintains the same RDI & route choices
2	Degradation in one factor
1	Overall degraded environment for biking/walking

## **ANALYSIS OF THE CONCEPTS**

This section briefly discusses those criteria where the option deviated from a baseline score of “3”. If nothing is mentioned regarding a particular criterion then no change can be assumed. Where the criteria changed for only a particular transportation mode (bicycle/pedestrian), that mode is identified. All other references should be assumed to refer to both bicycle and pedestrian travel.

### **2011 Existing Conditions**

The 2011 Existing Conditions were analyzed as the baseline, and as such received a score of 3 across the board.

#### **1. 2035 No-Build**

This concept remains the same in all the criteria, except for the Quality of the routes. With no improvements to any of the facilities, plus a forecasted increase in non-motorized and motorized traffic, overall quality for the existing facilities will go down.

#### **2. Mainline Operational Improvements**

##### **2a. Braided Ramps**

Both Option 1 and Option 2 received scores of “2” on the North-South RDI/Route Choice, as bicycle travel is forced out-of-direction (for northbound travel) to N Flint Street and off the existing Vancouver/Williams couplet, while pedestrian travel is also forced off of N. Williams Street to either N. Flint or N. Vancouver.

The addition of the NE Hancock St. overcrossing improved the East-West RDI/Route Choice in both options.

Option 2 scored slightly higher on the Quality scale given the presence of a dedicated bicycle/pedestrian path connecting from the Flint/Weidler intersection into the Rose Quarter at NE Multnomah.

##### **2b. Collector / Distributor (C/D) Roads**

The number of crossings and route choice options both increase with the addition of the NE Hancock St. overcrossing. The overall quality of the facilities should also increase with the new and rebuilt facilities.

#### **3. Rebuild Structures**

With the rebuilt structures, the quality of the facilities will improve from the baseline.

#### **4. Enhance the Broadway/Weidler Interchange**

##### **4a. Split Diamond Interchange**

Pedestrians lose one overall crossing opportunity in this option with the closure of both the Vancouver and Williams structures.

With a new NE Hancock St overcrossing, and the new and rebuilt facilities, the facility quality improves for both bicyclists and pedestrians.

The overcrossing also increases the route options available to all users, particularly in the East-West direction.

In the North-South direction, the loss of the direct connection via the Vancouver/Williams couplet is partially offset by the improved facilities along N Flint St., as well as the new bicycle/pedestrian pathway on the east side of the freeway from Williams/Hancock to NE Multnomah St.

##### **4b. Folded Diamond Interchange**

The folded diamond works particularly well on all criteria, including safety. Pedestrians lose one overall crossing opportunity in Option 2 with the closure of the N. Vancouver overcrossing, which reduces the score to a “2”. All other criteria (Quality, RDI/Route Choice, and Safety) score a “5”.

***This is the highest-rated interchange type in the bicycle/pedestrian analysis.***

##### **4c. Three-Point Interchange (Couplet)**

The major variation in the three options for this interchange type is the presence (or absence) of the bicycle/pedestrian pathways along the Vancouver/Williams couplet. Where these pathways are present (Option 2), the Quality and North-South RDI/Route Choice both score a “5”, along with the East-West RDI/Route Choice due to the presence of the N Hancock St. overcrossing.

In Options 1 and 3, where the pathways are not included, the North-South RDI/Route Choice is negatively impacted and goes down.

The quality of the facilities in Option 1 is also negatively impacted by the lack of an improved N Flint crossing along with the combined local access/freeway access at the middle point (Williams/Weidler; Williams/Broadway) of the three-point interchange.

With the increased number of signals, the safety for bicyclists and pedestrians increases slightly.

## **5. New Concepts for the Broadway/Weidler Interchange**

### **5a. Standard Diamond Interchange**

With the addition of the overcrossings, the number of bike crossings increase in both options, while the number of pedestrian crossings remains the same given the loss of the Vancouver crossing.

In both options, the Quality of the facility is negatively impacted by the de-coupling of Broadway/Weidler, and the increase in the number of adjacent travel lanes and increased traffic volumes.

In both options, the East-West RDI/Route Choice improves slightly given the presence of the new overcrossings. This criterion only received a “4” due to the decreased attractiveness of Broadway as a through route to bicyclists and pedestrians.

For the North-South RDI/Route Choice, Option 1 scored much better than Option 2 due to the continuation of N Williams through the “box”.

### **5b. Single-Point Urban Interchange (SPUI)**

A single-point urban interchange is not a comfortable interchange design type for bicyclists and pedestrians. In both options, the available crossings, the facility quality, and the RDI/Route Choice are all negatively impacted by the SPUI.

In addition, bicycles and pedestrians may limit the advantages of the SPUI design due to their slower speeds and access requirements. The required green and/or all-red clearance intervals necessary for a bicycle to clear most SPUI intersections are substantially longer than what is needed for a motor vehicle. The required extended signal timing increases delay for motorists. Efficient SPUI signal timing could endanger cyclists and pedestrians.

### **5c. Diverging Diamond Interchange (DDI)**

This option has a highly negative impact on North-South RDI/Route Choice, as it eliminates the Vancouver/Williams couplet through the “box” and does not provide any comparable route to bicyclists or pedestrians. The Quality of the facilities would also be negatively impacted, as there would be unsignalized on- and off-ramps within the DDI, increasing the impacts of the traffic on bicyclists and pedestrians on Broadway/Weidler. The East-West RDI/Route Choice is improved with the addition of the complementary overcrossings.



5d. Roundabout-Controlled Diamond Interchange

The roundabout options perform poorly in almost all of the criteria. The Quality of the facilities will decrease for all users, as does the North-South RDI/Route Choice for Option 1.

The East-West RDI/Route Choice is negatively impacted for bicyclists, as bicyclists would either be required to (a) take the lane with no marked facilities through the roundabout; (b) act as pedestrians and use the sidewalk through the roundabout; or (c) take an alternate route.

5e. Three-Point Interchange (De-couple)

In both options, the quality of the facility is negatively impacted by the de-coupling of Broadway/Weidler, and the increase in the number of adjacent travel lanes and increased traffic volumes.

In both options, the East-West RDI/Route Choice improves slightly given the presence of the new overcrossings. This criterion only received a “4” due to the decreased attractiveness of Broadway as a through route to bicyclists and pedestrians.

**1.a.iii. Improve local street circulation and freeway crossing opportunities**

**CRITERIA**

DKS prepared the rankings for 1a.iii utilizing the following criteria. DKS broke the measure into two sub-measures: local street circulation, and freeway crossing opportunities. Each of the two sub-measures was used to evaluate the freeway interface concepts in terms of whether they improve, maintain, or degrade local circulation or freeway crossing.

**Local Street Circulation**

This sub-measure was applied by taking a qualitative look at local network connectivity and north-south as well as east-west travel options through the area. The existing conditions were established as the baseline, with a score of 3, against which potential concepts were compared, with the scoring based on the following criteria:

Score	Level of Local Circulation
5	Significantly increases circulation options
4	Somewhat increases circulation options
3	Maintains circulation options
2	Somewhat reduces circulation options
1	Significantly reduces circulation options

### Freeway crossing opportunities

This sub-factor was applied by assessing the number of full crossings of Interstate 5 under each concept, where a full crossing includes movement in both directions (i.e., a Broadway/Weidler couplet counts as one full crossing). The existing conditions, which include three full crossings (Broadway/Weidler, Vancouver/Williams, Flint), were established as the baseline against which potential concepts were compared, with the scoring based on the following criteria:

Score	Crossing Opportunities
5	Adds more than one full crossing
4	Adds up to one full crossing
3	Maintains three full crossing opportunities
2	Removes up to one full crossing
1	Removes more than one full crossing

## ANALYSIS OF THE CONCEPTS

This section briefly discusses the key findings for this measure. Generally, concepts that add a Hancock or Clackamas overcrossing or maintain the Vancouver, Williams, and/or Flint crossings scored better on this measure.

5b. Single-Point Urban Interchange and 5c. Diverging Diamond Interchange have the largest negative impact on local street circulation, removing freeway crossings and reducing north-south access through the interchange area. 5d. Roundabout-Controlled Diamond Interchange and 5e. Three-Point Interchange also score relatively poorly on this measure, mostly due to reduced circulation north of the interchange.

### 1.b. Increase Safety for all modes

*The following measures were used to evaluate Screening Factor 1.b.:*

- 1.b.i. Construct/provide user friendly ramp terminal intersections
- 1.b.ii. Provide pedestrian and bicycle infrastructure and minimize pedestrian and bicycle conflicts with motor vehicles

#### 1.b.i. Construct/provide user friendly ramp terminal intersections

### CRITERIA

The following criterion was used in developing the scoring for 1.b.i. ODOT prepared the ranking for this measure.

**Complexity/Difficulty** – Do the proposed ramp terminals present simple, understandable, easily negotiated intersections for users (bike/ped, passenger/freight vehicles)?

This measure assesses the proposed ramp terminals (which include the retention of existing terminals) for geometric simplicity, user understanding and ease of negotiating. Multi-leg, odd traffic flows, long crossings are considered more complex and difficult to negotiate. The existing ramp terminals, which have some complexity and difficulty, were used as a median baseline. The scoring is based on the following criteria:

Score	Construct User Friendly Ramp Terminals
5	Less complex, easier crossing for users
4	Better than existing, less difficult crossings
3	Same complexity as today, some difficult crossings
2	Added complexity, some difficult crossings
1	More complex, more difficult crossings

## ANALYSIS OF THE CONCEPTS

Many of the concepts reduce the complexity of the ramp terminals over what exists today. 5d. Roundabout-Controlled Diamond Interchange is the only concept that would increase complexity for users.

### 1.b.ii. Provide pedestrian and bicycle infrastructure and minimize pedestrian and bicycle conflicts with motor vehicles

#### CRITERIA

Alta developed the following criterion for scoring 1b.ii.

**Safety** - Are pedestrian and bicycle conflicts with motor vehicles minimized?

For the safety analysis, 6 “hot spots” were identified in the Existing Conditions, and all options were compared to these to see if those were eliminated and/or minimized in any manner. In addition, any new “hot spots” were identified in all options. The 6 baseline identified locations are:

- Northbound on-ramp @ Broadway/Williams
- N Vancouver between Broadway and Weidler
- The southbound off-ramps @ Broadway
- The intersection of Flint and Broadway
- The northbound off-ramp @ Weidler
- The southbound on-ramp @ Winning Way

Safety	
5	Less than 4 “hot spots”
4	4 or 5 “hot spots”
3	Maintains the same number of “hot spots”
2	7 “hot spots”
1	More than 7 “hot spots”

## ANALYSIS OF THE CONCEPTS

4b. Folded Diamond Interchange would provide the fewest “hot spot” intersections (fewer than 4). 4c. Three-Point Interchange also scores well. 5b. Single-Point Urban Interchange, 5c. Diverging Diamond Interchange, and 5d. Roundabout-Controlled Diamond Interchange each ranked poorly as they would have 7 or more “hot spot” intersections.

## 1.c. Improve freight access from freeway to industrial areas and major destinations

### 1.c.i. Freeway on/off ramps designed to facilitate freight travel

#### CRITERIA

DKS prepared the ranking for this measure. It included one sub-measure – ramp location. This sub-measure assesses whether alternative concepts increase or decrease out-of-direction travel for freight, using the existing interchange as the baseline (score of 3). Interfaces which included loops, such as the folded diamonds, or had designs that might necessitate backtracking, such as the diverging diamond, scored low, while designs that allowed full directional movement, such as the standard diamond, scored high.

Score	Ramp Location
5	Significantly decreases out-of-direction travel
4	Somewhat decreases out-of-direction travel
3	Maintains current level of access
2	Somewhat increases out-of-direction travel
1	Significantly increases out-of-direction travel

## ANALYSIS OF THE CONCEPTS

Generally all of the concepts would maintain the same level of out-of-direction travel for freight as exists today, except for 5a. Standard Diamond Interchange, which would somewhat reduce out-of-direction travel.

## 2. SAFE TRAFFIC OPERATIONS AND FREIGHT MOBILITY

### 2.a. Improve freeway operations for freight and auto

#### 2.a.i. Improve weaving lengths on I-5 at Broadway/Weidler

##### CRITERIA

ODOT prepared the ranking for this measure. The following criterion was used in developing the scoring for 2.a.i.

**Weaving Lengths/Weaving Type** – Does the proposed interchange or freeway improvements lengthen or reduce weaving conflicts?

This measure assesses the proposed interchange ramp configuration and consequent freeway weaving length or weaving type i.e. full exchange of all weaving vehicles from one lane to the other or partial exchange, with only one movement required to weave - (type 'C' or type 'B'). The existing weaving sections were deemed inadequate, and therefore were used as a base low score. The scoring is based on the following criteria:

Score	Improves Weaving Length/Weaving Type
5	Lengthens and improves at least two weave sections
4	Lengthens <b>or</b> improves two weave sections
3	Lengthens and improves one weave section
2	Lengthens <b>or</b> improves one weave section
1	Does not lengthen or improve any weave sections

##### ANALYSIS OF THE CONCEPTS

All of the interchange concepts improve the weave conditions on I-5 to varying degrees. The best performers are 2a. Braided Ramps and 2b. Collector/Distributor Roads (which remove the weaves entirely) and 4b. Folded Diamond Interchange, which would lengthen the weave areas and improve the type of weave.

## 2.b. Improve freeway safety

### 2.b.i. Maintain or reduce risk of queues backing up onto freeway mainline

#### CRITERIA

DKS prepared the ranking for 2.b.i. This measure was broken into two sub-measures: northbound queuing and southbound queuing, as different interchange concepts tended to have different effects in whether and how they mitigated or exacerbated queuing. Interchange concepts that moved queues completely away from the mainline, such as the collector distributor road and the braided ramps (in the northbound direction), received the highest score. Concepts that placed difficult signalized intersections at the ramp terminals, such as the standard diamond interchange, scored poorly.

Score	95th percentile queue length (NB and SB)
5	Queue removed from mainline due to design
4	95 <sup>th</sup> percentile = 100 feet or less
3	95 <sup>th</sup> percentile = 100 feet to 250 feet
2	95 <sup>th</sup> percentile = 250 feet to 500 feet
1	95 <sup>th</sup> percentile = 500 to 1,000 feet

#### ANALYSIS OF THE CONCEPTS

2a. Braided Ramps, 2b. Collector/Distributor Roads, and 4a. Split Diamond Interchange score well on this measure with queue lengths better than 2035 No-Build. 5a. Standard Diamond Interchange scores poorly with northbound and southbound queues of 250 to 500 feet.

## 2.c. Improve the local circulation system for safe access for all transportation modes within the quadrant and freeway interchange

### 2.c.i. Maintain or improve local traffic operations in “the Box”

#### CRITERIA

DKS prepared the ranking for this measure. It was broken into four sub-measures: two based on intersection level of service (one for average intersection LOS and one for worst intersection), and two based on queuing issues (one for length of non-freeway queuing roughly within the six intersection “box” around the existing interchange, and one for intersections blocked by queuing. Scoring ranges for the four sub-measures are shown in the tables below.

Score	Average Intersection LOS Within "Box"
5	A or B
4	C
3	D
2	E
1	F

Score	Worst Intersection LOS Within "Box"
5	A or B
4	C
3	D
2	E
1	F

Score	Total Length of 95 <sup>th</sup> Percentile Queuing Within "Box"
5	750 feet or less
4	750 to 1500 feet
3	1500 to 2250 feet
2	2250 to 3500 feet
1	3500 feet or more

Score	Number of "Box" Intersections Blocked by 95 <sup>th</sup> Percentile Queuing
5	0
4	1
3	2
2	3
1	4 or more

## ANALYSIS OF THE CONCEPTS

The existing conditions scenario scored well, but some concepts improved significantly on existing conditions, such as 4a. Split Diamond Interchange and 5c. Diverging Diamond Interchange. Other scenarios performed worse than the no-build. The worst performing concept was 5a. Standard Diamond Interchange, which would have an average intersection LOS of F and 6 blocked intersections in "the box."

## 3. EQUITABLE ACCESS TO COMMUNITY AMENITIES AND ECONOMIC OPPORTUNITIES

### 3.a. Avoid/minimize/mitigate involuntary displacement of quadrant residents and jobs

#### 3.a.i. Minimize risk of displacement of key employment and residential sites adjacent to I-5

URS prepared the ranking for 3.a.i. This measure assesses the risk of impact to key employment or residential sites that the community has previously identified as important. These include the following properties or areas:

- Rose Garden Arena
- Convention Center
- Madrona Studios
- Left Bank
- Paramount Apartments
- Eliot Conservation Area

#### CRITERIA

Each of the concepts was screened for its likelihood of having an impact severe enough to each of these employment or residential sites that it would result in a displacement. The following summarizes the general risk for impact of each of these properties or areas.

- Any of the concepts that would widen I-5 between Broadway/Weidler and I-84 would be designed not to impact the Rose Garden Arena and the Convention Center, which are important regional facilities.
  - The Rose Garden Arena is located approximately 120 feet from the current edge of the I-5 roadway.
  - The Convention Center is located approximately 100 feet from the current edge of the I-5 roadway and approximately 50 feet from the edge of the Holladay Street exit ramp from I-84.
- While new interchange concepts pose varying amounts of risk to the Madrona Studios, Left Bank, and Paramount Apartments, all have been designed to avoid these properties.
  - The Madrona Studios property is located approximately 100 feet west of the current edge of the I-5 roadway. Most concepts would result in changes in access to this property, but would pose no risk of displacement.
  - The Left Bank property is located approximately 180 feet west of the current edge of the I-5 roadway. Several of the concepts would result in changes in access to this property, but would pose no risk of displacement.



- The Paramount Apartments property is located approximately 300 feet from the current edge of the I-5 roadway and 150 feet from the current southbound I-5 exit ramp. Several of the concepts would reduce the number of parking spaces at this property or result in changes in access, but would pose no risk of displacement.
- There is no risk of impact to any of the properties within the Eliot Conservation Area.

The scoring ranges for this measure are shown in the table below.

<b>Score</b>	<b>Level of Risk of Displacement for Each Property</b>
<b>5</b>	No risk of displacement or other impact to listed facility
<b>4</b>	No risk of displacement. Some risk of circulation, access, parking or other impact to listed facility
<b>3</b>	Some risk of displacement or major functional changes to listed facility
<b>2</b>	Moderate risk of displacement or major functional changes to listed facility
<b>1</b>	High risk of displacement or major functional changes to listed facility

## **ANALYSIS OF THE CONCEPTS**

The following details the level of risk for impact that each concept has on each of the key sites.

### **1. 2035 No-Build**

Avoids impacts to all listed facilities

### **2. Mainline Operational Improvements**

#### **2a. Braided Ramps and 2b. Collector/Distributor (C/D) Roads**

With braided ramps or C/D roads between Broadway/Weidler and I-84, the following listed properties would be at risk:

- Convention Center – The addition of braided ramps or C/D roads in this area would pose a low risk for impacts to the loading docks of the Convention Center. The design of these improvements would need to accommodate freight circulation serving the Convention Center.

- Madrona Studios – Located immediately west of the proposed southbound I-5 entrance ramps under this concept, the closure of Williams and changes to Wheeler would result in some access changes. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

### **3. Rebuild the Structures with Mainline Operational Improvements**

This concept would pose no displacement risks to any properties.

### **4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements**

#### **4a. Split Diamond**

This concept would pose the following risks:

- Madrona Studios – The closure of Williams and changes to Wheeler would result in some access changes. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

#### **4b. Folded Diamond**

This concept would pose the following risks:

- Left Bank Building – This concept would put the southbound ramp terminal immediately adjacent to the Left Bank Building, increasing traffic volumes in front of the building and potentially changing access to the property. This could also result in a reduction in parking spaces. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

#### **4c. Three-Point Interchange**

This concept would pose the following risks:

- Madrona Studios – The closure of Williams and changes to Wheeler would result in some access changes. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

## **5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements**

### **5a. Standard Diamond (de-couple Broadway/Weidler)**

This concept would pose the following risks:

- Madrona Studios – The closure of Weidler and changes to Williams would result in some access changes. There would be no risk of displacement.
- Left Bank Building – The closure of Wheeler and Weidler would result in access changes to the property. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

### **5b. Single-Point Urban Interchange (SPUI; de-couple Broadway/Weidler)**

This concept would pose the following risks:

- Madrona Studios – The location of the interchange adjacent to this property would result in some access changes. There would be no risk of displacement.
- Left Bank Building – The closure of Wheeler and Broadway, and changes to Vancouver would result in access changes to the property. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

### **5c. Diverging Interchange (DDI)**

This concept would pose the following risks:

- Madrona Studios – The location of the interchange adjacent to this property would result in some access changes. There would be no risk of displacement.
- Left Bank Building – The closure of Wheeler and Vancouver and access limitations on Broadway and Weidler would result in access changes to the property. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

5d. Roundabout-Controlled Diamond Interchange

This concept would pose the following risks:

- Madrona Studios – The location of the interchange adjacent to this property would result in some access changes. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

5e. Three-Point Interchange (de-couple Broadway/Weidler)

This concept would pose the following risks:

- Madrona Studios – The location of the southbound ramp adjacent to this property and the closure of Weidler would result in some access changes. There would be no risk of displacement.
- Left Bank Building – Changes to traffic patterns on Wheeler could result in access changes to the property or reduction in parking. There would be no risk of displacement.
- Paramount Apartments – The addition of a new connection across I-5 between Hancock and Dixon would result in a reduction of parking spaces for this property. There would be no risk of displacement.

### 3.a.ii. Minimize number of buildings demolished or properties made obsolete by reduced parking

#### CRITERIA

While the previous measure examined the risk of displacement to some specific properties, this measure assesses the number of properties that would be impacted by each of the concepts. For this measure, URS tallied the number of buildings that would be directly impacted and the number of properties that would lose enough parking to become unable to continue in their current use.

The scoring ranges for this measure are shown in the table below.

Score	Number of Properties Impacted
5	Property impacts limited to minor right-of-way expansion only. No buildings displaced
4	2-3 buildings would be demolished or would lose a significant amount of parking or access
3	4-5 buildings would be demolished or would lose a significant amount of parking or access
2	6-8 buildings would be demolished or would lose a significant amount of parking or access
1	More than 8 buildings would be demolished or would lose a significant amount of parking or access

#### ANALYSIS OF THE CONCEPTS

The following lists the number of properties impacted by each concept.

##### **1. 2035 No-Build**

Would not result in any buildings demolished or made obsolete by reduced parking.

##### **2. Mainline Operational Improvements**

###### **2a. Braided Ramps and 2b. Collector/Distributor (C/D) Roads**

Would have limited right-of-way acquisition needs. Would not result in any buildings demolished or made obsolete by reduced parking.

### **3. Rebuild the Structures with Mainline Operational Improvements**

Would have limited right-of-way acquisition needs. Would not result in any buildings demolished or made obsolete by reduced parking.

### **4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements**

#### **4a. Split Diamond**

This concept would likely directly impact three to four buildings and result in significant parking loss to one to two additional properties.

#### **4b. Folded Diamond**

This concept would likely directly impact one to three buildings and result in a moderate parking loss to the Left Bank Annex.

#### **4c. Three-Point Interchange**

Would have limited right-of-way acquisition needs. Would not result in any buildings demolished or made obsolete by reduced parking.

### **5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements**

#### **5a. Standard Diamond (de-couple Broadway/Weidler)**

This concept would likely directly impact nine buildings.

#### **5b. Single-Point Urban Interchange (SPUI; de-couple Broadway/Weidler)**

This concept would likely directly impact four to five buildings.

#### **5c. Diverging Interchange (DDI)**

This concept would likely directly impact two buildings and result in significant access or parking loss to two to three additional properties.

#### **5d. Roundabout-Controlled Diamond Interchange**

This concept would likely directly impact five buildings and result in significant parking loss to one additional property.

5e. Three-Point Interchange (de-couple Broadway/Weidler)

This concept would likely directly impact two buildings and result in significant access or parking loss to one additional property.

## 4. PROTECTION AND ENHANCEMENT OF THE CULTURAL HERITAGE OF THE AREA AND ITS SUB-DISTRICTS

### 4.a. Avoid/minimize/mitigate demolition of historic and cultural resources

#### 4.a.i. Avoid existing landmarks and potentially eligible historic structures

URS prepared the ranking for 4.a.i. This measure assesses the risk of direct impact to properties that are on the national register of historic properties, eligible historic properties, or potentially eligible properties. Each of the concepts was evaluated for its likelihood of requiring the demolition of each of the properties identified as historic, eligible, or potentially eligible in the area. The following five properties were identified as potentially at some level of risk by one or more of the concepts.

- Serene Court Apartments (1130 NE 1st Avenue) – An apartment building that is located on the east side of NE 1st Avenue, just north of NE Multnomah Street. I-5 is located immediately west of NE 1st Avenue in this location. The current edge of the I-5 roadway is approximately 100 feet from this building. It is identified as **potentially eligible**. This property would be at a low risk of impact from the construction of braided ramps or C/D roads between I-84 and Broadway/Weidler.
- 211 NE Everett Street – This is a Portland Water Bureau Building located at the northeast corner of NE 2nd Avenue and Everett Street, beneath the I-84 westbound flyover ramps to I-5. It is identified as **potentially eligible**. This property could only be affected by construction of braided I-84 ramps. It is already located beneath freeway ramps and any ramp construction would avoid this property.
- Left Bank Building (222 to 240 N Broadway) – The Left Bank property is located approximately 180 feet west of the current edge of the I-5 roadway. This property is identified as an **eligible historic structure**. All of the concepts would be designed to avoid this property. Therefore, none pose a risk of demolition. The diverging diamond concept would likely require access restrictions to this property.
- Paramount Apartments (253 N Broadway) – The Paramount Apartments property is located approximately 300 feet from the current edge of the I-5 roadway and 150 feet from the current southbound I-5 exit ramp. This property is identified as an **eligible historic structure**. All of the concepts would be designed to avoid this property. Therefore, none pose a risk of demolition. The folded diamond concept would result in minor access changes.
- 122 to 140 NE Broadway – This is a commercial building located on the south side of NE Broadway between NE 1st and NE 2nd avenues. This property is identified as an **eligible historic structure**. All of the concepts would be designed to avoid this property. Therefore, none pose a risk of demolition.



#### 4.a.ii. Avoid culturally significant structures

In addition to identified historic properties in the area that could be impacted by this project, URS prepared an assessment of the risk of impact to properties that are identified as culturally significant in the Cornerstones of Community inventory of buildings that are or once were associated with African Americans. This inventory was completed by the Bosco-Milligan Foundation to preserve structures in the neighborhood that may not have the historic integrity to qualify as historic landmarks, but are nonetheless culturally significant to the neighborhood.

There is one Cornerstones property that is identified as potentially at some level of risk by one or more of the concepts.

- 1609 NE 2nd Avenue – This is a commercial building located on NE Weidler Street just west of NE 2nd Avenue. It is included in the Cornerstones inventory and is therefore considered a **culturally significant structure**. All of the concepts would be designed to avoid this property. Therefore, none pose a risk of demolition.

#### 4.b. Avoid/minimize/mitigate impacts to parks and schools

##### 4.b.i. Avoid existing parks and schools

URS prepared the ranking for 4.b.i. This measure assesses the risk of impact to parks and schools in the area. Three have been identified in the immediate area that could potentially be at some level of risk by one or more of the concepts:

- Tubman School
- Albina Park
- Peace Park/Eastbank Esplanade

Each of the concepts was screened for its likelihood of having an impact on each of these properties. The following summarizes the general risk for impact of each of these properties or area.

Tubman School – This property is located north of the Broadway/Weidler interchange, immediately east of I-5 right-of-way and at the top of an existing retaining wall. Any widening of I-5 in this area is planned to be to the west of the existing alignment to avoid the Tubman School property. There would be no risk of impact to this property.

Albina Park – This property is located adjacent to Tubman School, also immediately east of I-5 right-of-way. Any widening of I-5 in this area is planned to be to the west of the existing alignment to avoid the Albina Park property. There would be no risk of impact to this property.

Peace Park/Eastbank Esplanade – This property is located immediately west of I-5, south of the Rose Garden Arena and the Rose Quarter Transit Center. The only concepts that could have an impact on this property would be 2a. and 2b. (braided ramps or collector distributor roads). The reconstruction of southbound ramps under these concepts could result in minor right-of-way acquisition from this property. None of the other concepts would pose a risk of impact to this property.

## 5. URBAN DESIGN

ZGF prepared the ranking for the urban design measures. This section summarizes the urban design criteria which were applied to the N/NE Quadrant and I-5 Broadway/Weidler Plan interchange options during the Phase 2 Screening. Using a matrix comparing criteria and interchange designs, ZGF developed a method to consider urban design factors with other screening criteria. A summary of applied urban design screening criteria to each interchange type is provided under Supporting Analysis.

### CRITERIA

Purpose: Identify opportunities and challenges for high quality redevelopment of the interchange area and the N/NE Quadrant.

Method: ZGF conducted an assessment of urban design impacts, with focus on design elements and configurations that enable or compromise development and connectivity within the district or between adjacent neighborhoods. The following evaluation criteria were employed:

#### 5.a. Improve freeway edge conditions

##### 5.a.i. Minimize the footprint of the freeway

For this measure, the consultant team ranked each option based on the extent to which the design expanded the footprint of the freeway. The existing condition was ranked as 5 with the understanding that no option under consideration was likely to shrink the freeway footprint.

Scoring	
5	No expansion from existing footprint
4	Negligible expansion from existing footprint
3	Minimal expansion from existing footprint
2	Significant expansion from existing footprint
1	Major expansion from existing footprint

#### 5.b. Urban redevelopment opportunities

##### 5.b.i. Remaining/affected parcel sizes accommodate typical residential or commercial developments

For this measure, the consultant team ranked each option based on the extent to which the design created slivers of property that would be unusable or otherwise compromised for future development. Given that several parcels are compromised or access-challenged today, the existing/no build conditions

were ranked as 3, with the understanding that some new designs may create better parcels than currently exist.

Scoring	
5	Creates new or improved parcels for development
4	Increases useable size of existing parcels
3	Development opportunities similar to existing
2	Compromises existing parcels
1	Creates less developable parcels

### 5.b.ii. Maximize access to remnant/impacted parcels

For this measure, the consultant team ranked each option based on the extent to which parcels were affected by the movement of ramps or the reconfiguration of circulation. If new parcels were better served by the new system, they scored higher. Using the assumption that this criterion was to be applied on existing parcels, the existing/no build condition was ranked as 5, with the expectation that most changes would result in equal or lesser access.

Scoring	
5	Maintains existing access
4	Negligible impact to existing access
3	Minor access impacts
2	Significant access impacts
1	Major access impacts

## 5.c. Improve continuity of urban uses across the district

### 5.c.i. Enables good connections to major destinations

For this measure, the consultant team ranked each option based on the extent to which major destinations remain easily accessible, with clear and direct routes to and from freeways and across freeway for arterials and major pedestrian and bicycle pathways. Given the difficult circulation through the district today, the team ranked the existing/no build condition as 3, with the expectation that some designs may improve access to major destinations.

Scoring	
5	Improves connections to major destinations
4	Enhances existing connections to major destinations
3	Maintains connections to destinations equal to existing
2	Limits ease of connection to major destinations
1	Reduces ease of connection to major destinations

### 5.c.ii. Enables good connections between complementary land uses

For this measure, the consultant team ranked each option based on the extent to which it expanded or limited access between neighborhoods in the N/NE Quadrant, with an emphasis on connections between sites with significant development potential and major destinations. This criterion weighs freeway crossings and movements along its length. Based on the existing difficulty of moving north and south across the Broadway-Weidler couplet, and east and west over the freeway, the existing/no build was assigned a 3 ranking, with the expectation that some designs would significantly improve connectivity between neighborhoods. Credit was given to designs that significantly improved pedestrian and bicycle connectivity, reducing the perception of thoroughfares as barriers and improving the relationship between sub districts. Streets given over primarily for vehicle movements scored lower than those with multi modal purposes. Designs that eliminated existing local connections were ranked lower. The major improvements common among several designs were new overcrossings of the freeway at Hancock and Clackamas streets.

Scoring	
5	Improves connections between neighborhoods and sub districts
4	Enhances connections between neighborhoods and sub districts
3	Maintains connections equal to existing
2	Limits connectivity between neighborhoods and sub districts
1	Creates obstacles to connectivity between neighborhoods and sub districts

## ANALYSIS OF THE CONCEPTS

The following analysis summarizes the major impacts or benefits associated with each interchange option, which guided the application of the criteria described above.

### 0. 2011 Existing Conditions

The 2011 Existing Conditions were analyzed as the baseline. For criteria where improvement seems possible, the 2011 Existing Conditions is ranked as 3. For criteria where improvement over existing conditions is unlikely, maintaining the 2011 Existing Conditions is ranked as 5.

## **1. 2035 No-Build**

The consultant team chose not to assume what development, changes in land use, or improvements to streets may occur between 2011 and 2035. As such, for urban design criteria, the no-build is assumed to perform as well and/or as poorly as the 2011 Existing Conditions.

## **2. Mainline Operational Improvements**

### **2a. Braided Ramps**

Braided Ramps Option 1 has a slightly expanded freeway footprint with ramps encroaching on the access around the OCC site and the elimination Williams Avenue near the Madrona, between Winning Way and Weidler. The option also eliminates street frontage for the Left Bank, which will limit access to that property. Transit routes and other movements to the Rose Quarter will be slightly more circuitous, but additional neighborhood access will be afforded by the new overcrossing at Hancock.

Braided Ramps Option 2 expands the freeway footprint, with ramps encroaching on the access around the OCC site and elimination of part of Williams Avenue between Winning Way and Weidler. Access to the Left Bank would also be limited to N Wheeler Avenue with potential loss of access from N Weidler. Access to the Rose Quarter from the interchange would be similar to existing on the north side of the N Broadway, with all traffic entering on Winning Way via N Benton, N Vancouver, or N Larabee. On the North-South movements in the vicinity of the Vancouver-Williams couplet would become more circuitous through the N Broadway/Weidler couplet, but East-West connections over I-5 would be enhanced as a result of the new Hancock overcrossing.

## **3. Rebuild Structures**

Rebuilding the overcrossing structures for N Flint, Williams and Vancouver would slightly expand the footprint of the freeway. Properties near the structures may have impacts to access as a result of the lengthened structures. More detailed designs are necessary to determine the extent of these impacts.

## **4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements**

### **4a. Split Diamond Interchange**

The Split Diamond Interchange includes new ramps that are shifted to the east, expanding the footprint of the freeway. The size, integrity, access and developability of several parcels are impacted by the ramps, and by the classification of N Williams Avenue as a pedestrian-bike only street and N Flint as a collector. North-South transit and other movements would be circuitous and out of direction through the N Wheeler to Flint Corridor. Removal of the N Williams and N Vancouver overcrossing are balanced by new overcrossings at Clackamas and Hancock, and the new

pedestrian-bike pathway along the east side of I-5 which supports neighborhood east west connections.

#### 4b. Folded Diamond Interchange

Folded Diamond Interchange Option 1 includes a significant increase in the footprint of the freeway, with ramps encroaching on adjacent properties and eliminating N Flint Avenue. Several parcels would be divided or reduced in size, leaving difficult residual parcels for development.

Neighborhood connections would be improved as a result of maintaining most north-south routes, adding freeway overcrossings at Clackamas and Hancock, and the new pedestrian-bike pathway along the east side of I-5.

Folded Diamond Interchange Option 2 includes a significant increase in the footprint of the freeway, with ramps encroaching on adjacent properties, and eliminating N Flint and N Vancouver crossings. Most access to major destinations and between neighborhoods is maintained or improved, as a result of new freeway overcrossings at Clackamas and Hancock, and an extension of 1st Avenue north of Multnomah Blvd.

#### 4c. Three-Point Interchange

Three-Point Interchange Option 1 involves a limited increase in the effective size of the freeway due to the elimination of the N Flint overcrossing and the N Williams segment between N Weidler and N Wheeler. The lost segment of N Williams would result in reduced access to the east side of the Madrona. North-south transit connectivity would be slightly circuitous due to removal of N Williams. Connections to major destinations and between neighborhoods is maintained or improved, with the addition of new freeway overcrossings at Clackamas and Hancock as well as extension of N 1st Avenue, north of Multnomah Blvd.

Three-Point Interchange Option 2 involves a limited increase in the effective size of the freeway due to the elimination of segments of N Flint and N Williams, The lost segment of N Williams would result in reduced access to the east side of the Madrona. Designation of Williams and Vancouver as freeway ramps between Broadway and Weidler would also limit access to the Left Bank properties. Local access between neighborhoods may be enhanced for pedestrians and bicyclists with the maintenance of most existing routes and the addition of new freeway overcrossings at Clackamas and Hancock and a pedestrian-bike pathway along the eastern edge of the freeway. Local auto connections would be significantly reduced, without any north-south crossings of the Broadway-Weidler couplet between NE 1st and N Flint.

Three-Point Interchange Option 3 involves a limited increase in the effective size of the freeway due to the elimination of a segment of N Williams and N Vancouver. The lost segment of N Williams would result in reduced access to the east side of the Madrona. East-west connections to major destinations and between neighborhoods are maintained or improved, with the addition of new

freeway overcrossings at Clackamas and Hancock, and a new pedestrian-bike path along the eastern edge of the freeway. North-south connections to major destinations are limited due to out of direction overcrossing for transit and other modes along N Flint.

## **5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements**

### **5a. Standard Diamond Interchange**

Standard Diamond Interchange Option 1 involves a significant expansion of the freeway footprint, with north and southbound ramps impacting several parcels and existing buildings, and leaving many undevelopable fragments of property. Further, the elimination of Weidler between Wheeler and NE 2nd removes access to several other parcels. In general, local neighborhood connections are enhanced by the addition of two new freeway overcrossings at Clackamas and Hancock, but the effect of a de-coupled Broadway-Weidler may result in a new perceived pedestrian and bike barrier to neighborhood connectivity.

Standard Diamond Interchange Option 2 involves significant expansion of the freeway footprint, with north and southbound ramps impacting several parcels and existing buildings, and leaving many undevelopable fragments of property. Further, the elimination of Weidler between Wheeler and NE 2nd, and segments of Williams, removes access to several other parcels. Local east-west neighborhood access is enhanced by the addition of the Clackamas and Hancock freeway overcrossings. The de-coupled Broadway Weidler and the elimination of the Williams-Vancouver crossings would significantly reduce connectivity to major destinations in the north-south direction.

### **5b. Single-Point Urban Interchange (SPUI)**

Single-Point Urban Interchange Option 1 involves significant expansion of the freeway footprint, with ramps impacting several parcels and existing buildings, and leaving many undevelopable fragments of property. The consolidation of local streets into the new SPUI results in lost street frontages along NE 1st, NE Victoria, N Williams, N Vancouver, N Wheeler, NE Broadway and NE Weidler. East-west connections between neighborhoods would likely be improved by new freeway overcrossings at Clackamas and Hancock, but limited by the new SPUI.

Single-Point Urban Interchange Option 2 involves significant expansion of the freeway footprint, with ramps impacting several parcels and existing buildings, and leaving many undevelopable fragments of property. The consolidation of local streets into the new SPUI results in lost street frontages along NE 1st, NE Victoria, N Williams, N Flint, N Wheeler, NE Broadway and NE Weidler. East-west connections between neighborhoods would likely be improved by new freeway overcrossings at Clackamas and Hancock, and by the extension of NE 1st Avenue north from Multnomah. Connections to major destinations in the north-south direction would be impacted.



### *5c. Diverging Diamond Interchange*

The Diverging Diamond Interchange creates a major freeway footprint, primarily as a result of limitations on parcels inside and along the diamond paths. The diamond would function as a part of the freeway ramping/access system. This would result in a loss of parcel street frontage and access along NE Broadway, NE Weidler, N Williams, N Vancouver and N Wheeler; creating reduced access to several parcels, and creating counterintuitive/indirect access to some major destinations (Rose Quarter, PPS). Local connectivity would be improved by the addition of new freeway overcrossings at Clackamas and Hancock. Connections to major destinations would be reduced by the elimination of all north-south connections between NE 1st Avenue and N Flint; resulting in significant out of direction traffic movements.

### *5d. Roundabout-Controlled Diamond Interchange*

Roundabout-Controlled Diamond Interchange Option 1 involves significant expansion of the freeway footprint around the roundabout and new ramps north of it. It impacts several parcels and existing buildings which would be unusable at their location within the roundabout. Local neighborhood access would be enhanced by the addition of new freeway overcrossings at Clackamas and Hancock. Local connections north-south are reduced by the elimination of segment of N Vancouver and N Williams and by the conversion of N Flint to a pedestrian-bike only street.

Roundabout-Controlled Diamond Interchange Option 2 involves significant expansion of the freeway footprint around the roundabout and new ramps north of it. It impacts several parcels and existing buildings which would be unusable at their location within the roundabout. Local neighborhood access would be enhanced by the addition of new freeway overcrossings at Clackamas and Hancock. Local connections north-south are sent slightly out of direction by the decoupling of N Vancouver and N Williams between Clackamas and Hancock, and auto access will be limited by the designation of N Flint as pedestrian-bike only.

### *5e. Three-Point Interchange (Decoupled Broadway-Weidler)*


Decoupled Three-Point Interchange Option 1 involves significant expansion of the freeway footprint, primarily as a result of northbound ramps, and space vacated by the elimination of segments of Broadway, Weidler and Williams. Parcels along those eliminated segments would have limited or lack of access, and several parcel fragments are created by the process of joining Broadway and Weidler into one overcrossing. Local access is enhanced in the east-west direction by the addition of new freeway overcrossings at Clackamas and Hancock.

Decoupled Three-Point Interchange Option 2 involves significant expansion of the freeway footprint, primarily as a result of northbound ramps, and space vacated by the elimination of segments of Broadway, Weidler, Williams and Vancouver. Parcels along those eliminated segments would have limited or a lack of access, and several parcel fragments are created by combining Broadway and



Weidler into one overcrossing. Local neighborhood connectivity is enhanced by the addition of new freeway overcrossings at Clackamas and Hancock, and by the extension of NE 1st Avenue to NE Victoria from Multnomah to Hancock.

## **6. Transportation System Management/Demand Management/Operations Management (TSM/DM/OM)**


The TSM/DM/OM option will result in urban design outcomes similar to the no-build scenario, given the lack of physical changes to the freeway footprint, to street alignment and circulation, and to parcel size and access. Local neighborhood connectivity is anticipated to improve slightly as a result of measures to increase safety for pedestrians and bicyclists (Pedestrian Countdown Signals, Cycle Track, etc.), and to limit traffic volumes and speeds (Real-Time Adaptive Signals, Variable Speed Signs, etc.).

North/Northeast Quadrant I-5 Broadway/Weidler Plans Freeway/Local Transportation Interface Concepts Technical Evaluation Matrix - 08/10/11	2011 Existing Conditions	1. 2035 No-Build	2. Mainline Operational Improvements			3. Rebuild Structures with Mainline Operational Improvements	4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements						5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements						6. TSM/TDM/Operations Management				
			2a. Braided Ramps		2b. Collector/Distributor (C/D) Roads		4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three-Point Interchange (couplet)		5a. Standard Diamond Interchange (de-couple Broadway/Weidler)		5b. Single-Point Urban Interchange (SPUI; de-couple)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange			5e. Three-Point Interchange (de-couple Broadway/Weidler)			
			Option 1	Option 2	Option 1			Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2		Option 1	Option 2	Option 1	Option 2
<p><b>Phase II Screening Factors</b></p>  <p>Legend:  <span style="color: green;">■</span> = 5 good  <span style="color: yellow;">■</span> = 4  <span style="color: orange;">■</span> = 3  <span style="color: red;">■</span> = 2  <span style="color: darkred;">■</span> = 1 poor</p>																							
<b>1. A full multimodal transportation system that addresses present and future transportation access and needs, both locally and on the freeway system</b>																							
<b>a. Improve multi-modal transportation accessibility and connectivity within and through the quadrant</b>																							
i. Improved bicycle accessibility and connectivity within and through the quadrant 5 = Increases number of crossings, quality of bikeways, connectivity and route choice 3 = Maintains the number of crossings, quality of bikeways, connectivity and route choice 1 = Reduces the number of crossings, quality of bikeways, connectivity and route choice		3 No change	3 Quality goes down	3 Choice and E-W Route directness increase	3 Choice and E-W Route directness increase	3 Choice and E-W Route directness increase	3 Quality of routes slightly improved	3 Choice and E-W Route directness increase	5 Route directness, choice, and quality increase	5 Route directness, choice, and quality increase	3 E-W route directness increase, quality decrease	5 Route directness, choice, and quality increase	3 E-W route directness increase, N-S route directness decrease	4 Quality decrease, increase in crossings and RDI/route choice	3 Quality decrease, increase in crossings and E-W RDI/route choice	2 Crossings and quality decrease	2 Crossings and quality decrease	3 Quality and N-S RDI/route choice decrease	2 Quality and RDI/route choice decrease	3 Quality and E-W RDI/route choice decrease	3 Quality decrease, crossings and E-W route choice increase	3 Quality decrease, crossings and E-W route choice increase	3 No change
Freeway Crossings 5 = 2 or more crossings than baseline 4 = 1 more crossing than baseline 3 = Maintains the same number of crossings as baseline 2 = 1 fewer crossing than baseline 1 = 2 or more fewer crossings than baseline		3	3	3	3	3	3	3	3	3	3	3	3	4	4	1	2	3	3	3	4	4	3
Quality 5 = Improvements on all factors (facility type, facility condition, and adjacent traffic conditions) 4 = Improvements in some factors with no degradations 3 = Maintains a similar quality to Existing Conditions 2 = Degradation on some factors, with no major deteriorations 1 = Overall degraded environment for biking		3	1	3	3	3	4	3	5	5	2	5	3	2	2	1	1	2	1	2	2	2	3
RDI (Route Directness Indicator) / Route Choice: East to West 5 = Improvements in both RDI and route choice 4 = Improvements in one factor 3 = Maintains the same RDI and route choices 2 = Degradation in one factor 1 = Overall degraded environment for biking		3	3	5	5	5	3	5	5	5	5	5	5	4	4	2	2	5	2	2	4	4	3
RDI (Route Directness Indicator) / Route Choice: North to South 5 = Improvements in both RDI and route choice 4 = Improvements in one factor 3 = Maintains the same RDI and route choices 2 = Degradation in one factor 1 = Overall degraded environment for biking		3	3	2	2	2	3	2	5	5	2	5	1	5	3	2	3	1	1	3	2	2	3
ii. Improved pedestrian accessibility and connectivity within and through the quadrant 5 = Increases number of crossings, quality of walkways, connectivity and route choice 3 = Maintains the number of crossings, quality of walkways, connectivity and route choice 1 = Reduces the number of crossings, quality of walkways, connectivity and route choice		3 No change	3 Quality goes down	3 Crossings decrease, E-W RDI increases	3 Crossings decrease, Quality, E-W RDI increases	4 Quality, E-W RDI increases	3 Quality of routes slightly improved	3 Quality of routes slightly improved	5 Route directness, choice, and quality increase	5 Route directness, choice, and quality increase	3 E-W route directness increase, quality decrease	5 Route directness, choice, and quality increase	3 E-W route directness increase, N-S route directness decrease	4 Quality decrease, increase in crossings and RDI/route choice	3 Quality decrease, increase in E-W RDI/route choice	2 Crossings and quality decrease	2 Crossings and quality decrease	3 Quality and N-S RDI/route choice decrease	2 Quality and RDI/route choice decrease	3 Quality and E-W RDI/route choice decrease	3 Quality decrease, crossings and E-W route choice increase	3 Quality decrease, crossings and E-W route choice increase	3 No change
Freeway Crossings 5 = 2 or more crossings than baseline 4 = 1 more crossing than baseline 3 = Maintains the same number of crossings as baseline 2 = 1 fewer crossing than baseline 1 = 2 or more fewer crossings than baseline		3	3	2	2	4	3	2	3	2	3	2	3	3	3	1	2	3	3	3	2	2	3
Quality 5 = Improvements on all factors (facility type, facility condition, and adjacent traffic conditions) 4 = Improvements in some factors with no degradations 3 = Maintains a similar quality to Existing Conditions 2 = Degradation on some factors, with no major deteriorations 1 = Overall degraded environment for walking		3	1	3	4	3	4	4	5	5	2	5	3	2	2	1	1	2	1	2	2	2	3
RDI (Route Directness Indicator) / Route Choice: East to West 5 = Improvements in both RDI and route choice 4 = Improvements in one factor 3 = Maintains the same RDI and route choices 2 = Degradation in one factor 1 = Overall degraded environment for walking		3	3	5	5	5	3	5	5	5	5	5	5	4	4	3	3	5	3	3	4	4	3
RDI (Route Directness Indicator) / Route Choice: North to South 5 = Improvements in both RDI and route choice 4 = Improvements in one factor 3 = Maintains the same RDI and route choices 2 = Degradation in one factor 1 = Overall degraded environment for walking		3	3	2	2	3	3	2	5	5	2	5	2	5	3	3	3	1	1	3	2	2	3


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North/Northeast Quadrant I-5 Broadway/Weidler Plans Freeway/Local Transportation Interface Concepts Technical Evaluation Matrix - 08/10/11  <b>Phase II Screening Factors</b>   	2011 Existing Conditions	1. 2035 No-Build	2. Mainline Operational Improvements			3. Rebuild Structures with Mainline Operational Improvements	4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements						5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements						6. TSM/TDM Operations Management			
			2a. Braided Ramps		2b. Collector/Distributor (C/D) Roads		4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three-Point Interchange (couplet)			5a. Standard Diamond Interchange (de-couple Broadway/Weidler)		5b. Single-Point Urban Interchange (SPUI; de-couple)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange		5e. Three-Point Interchange (de-couple Broadway/Weidler)		
			Option 1	Option 2				Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2		Option 1		Option 2	Option 1	Option 2
iii. Improve local street circulation and freeway crossing opportunities 5 = Increases number of local street freeway crossings 3 = Maintains the same number of local street freeway crossings 1 = Reduces the number of local street freeway crossings	3	3	4	4	3	3	2	3	3	3	3	2	4	4	3	3	2	3	4	3	3	3
Local Street Circulation 5 = Significantly increases circulation options 4 = Somewhat increases circulation options 3 = Maintains circulation options 2 = Somewhat reduces circulation options 1 = Significantly reduces circulation options	3 No change	3 No change	4 Adds circulation west of interchange	3 Maintains same level of circulation	3 Maintains same level of circulation	3 No change	2 Removes circulation north of interchange	3 Maintains same level of circulation	2 Removes circulation north of interchange	3 Maintains same level of circulation	2 Removes circulation north of interchange	2 Removes circulation north of interchange	3 Maintains same level of circulation	3 Maintains same level of circulation	1 Removes circulation north, east, and west of interchange	1 Removes circulation north, east, and west of interchange	1 Removes circulation north, east, and west of interchange	2 Removes circulation west of interchange	3 Maintains same level of circulation	1 Removes circulation north and east of interchange	2 Removes circulation north of interchange	3 No change
Freeway Crossing Opportunities 5 = Adds more than one full crossing 4 = Adds up to one full crossing 3 = Maintains three full crossing opportunities 2 = Removes up to one full crossing 1 = Removes more than one full crossing	3 No change	3 No change	4 Adds one full crossing (Hancock)	4 Adds one full crossing (Hancock)	3 No change	3 No change	2 Replaces N-S crossing (Vancouver-Williams) with E-W (Hancock)	3 Maintains same level of crossing opportunities	3 Maintains same level of crossing opportunities	3 Maintains same level of crossing opportunities	3 Maintains same level of crossing opportunities	2 Degrades northbound crossing	5 Maintains existing level and adds Hancock and Clackamas	5 Maintains existing level and adds Hancock and Clackamas	4 Degrades existing level but adds Hancock and Clackamas	4 Degrades existing level but adds Hancock and Clackamas	3 Maintains same level of crossing opportunities	4 Degrades existing level but adds Hancock and Clackamas	5 Maintains existing level and adds Hancock and Clackamas	4 Degrades existing level but adds Hancock and Clackamas	4 Degrades existing level but adds Hancock and Clackamas	3 No change
<b>b. Increase safety for all modes</b>																						
i. Construct/provide user friendly ramp terminal intersections 5 = Less complex, easier crossings for users 3 = Same complexity as today, some difficult crossings 1 = More complex, more difficult crossings	3 No change	3 No change	3 No change	3 No change	3 No change	3 No change	5 Reduced complexity for users	4 Reduced complexity for users	4 Reduced complexity for users	3 No change	4 Reduced complexity for users	4 Reduced complexity for users	4 Reduced complexity for users	4 Reduced complexity for users	3 No change	3 No change	3 No change	2 Increased complexity for users	2 Increased complexity for users	4 Reduced complexity for users	3 No change	3 No change
ii. Provide pedestrian and bicycle infrastructure and minimize pedestrian and bicycle conflicts with motor vehicles 5 = Less than 4 "hot spots" 4 = 4 or 5 "hot spots" 3 = Maintains the same number of "hot spots" 2 = 7 "hot spots" 1 = More than 7 "hot spots"	3 No change	3 No change	3 No change	3 No change	3 No change	3 No change	3 No change	5 Less than 4 "hot spots"	5 Less than 4 "hot spots"	4 4 or 5 "hot spots"	4 4 or 5 "hot spots"	4 4 or 5 "hot spots"	3 No change	3 No change	1 More than 7 "hot spots"	1 More than 7 "hot spots"	2 7 "hot spots"	1 More than 7 "hot spots"	1 More than 7 "hot spots"	3 No change	3 No change	3 No change
<b>c. Improve freight access from freeway to industrial areas and major destinations</b>																						
i. Freeway on/off ramps designed to facilitate freight travel 5 = Ramp location accommodates all trucks 3 = Ramp location meets most freight needs 1 = Ramp location poorly meets freight needs	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3
Ramp Location 5 = Significantly decreases out-of-direction travel 4 = Somewhat decreases out-of-direction travel 3 = Maintains current level of access 2 = Somewhat increases out-of-direction travel 1 = Significantly increases out-of-direction travel	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	4 Decreases out of direction travel	4 Decreases out of direction travel	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access	3 Maintains same level of access


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North/Northeast Quadrant I-5 Broadway/Weidler Plans Freeway/Local Transportation Interface Concepts Technical Evaluation Matrix - 08/10/11	2011 Existing Conditions	1. 2035 No-Build	2. Mainline Operational Improvements			3. Rebuild Structures with Mainline Operational Improvements	4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements					5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements										6. TSM/TDM Operations Management
			2a. Braided Ramps		2b. Collector/Distributor (C/D) Roads		4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three-Point Interchange (couplet)			5a. Standard Diamond Interchange (de-couple Broadway/Weidler)		5b. Single-Point Urban Interchange (SPUI; de-couple)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange		5e. Three-Point Interchange (de-couple Broadway/Weidler)		
			Option 1	Option 2				Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2		Option 1	Option 2	Option 1	Option 2	
<b>Phase II Screening Factors</b>  <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc; margin-right: 5px;"></span> = 5 good</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #fff2cc; border: 1px solid #ccc; margin-right: 5px;"></span> = 4</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #fce4d6; border: 1px solid #ccc; margin-right: 5px;"></span> = 3</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #f4cccc; border: 1px solid #ccc; margin-right: 5px;"></span> = 2</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #e74c3c; border: 1px solid #ccc; margin-right: 5px;"></span> = 1 poor</li> </ul>																						
<b>2. Safe traffic operations and freight mobility on I-5 and locally, with improved interface between the freeways and the local street system, and increased local connectivity to adjacent areas and land uses</b>																						
<b>a. Improve freeway operations for freight and auto</b>																						
i. Improve weaving lengths on I-5 at Broadway/Weidler 5 = Lengthens and improves at least 2 weave sections 3 = Lengthens and improves one weave section 1 = Does not lengthen or improve any weave sections																						
	1	1	5	5	5	4	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	2
<b>b. Improve freeway safety</b>																						
i. Maintain or reduce risk of queues backing up onto freeway mainline 5 = Very low risk of freeway queuing 3 = Some risk of freeway queuing 1 = High risk of freeway queuing																						
	4	3	4	4	4	3	4	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3
95th percentile queue length - northbound 5 = Queue removed from mainline due to design 4 = 95th percentile queue = 100 feet or less 3 = 95th percentile queue = 100 feet to 250 feet 2 = 95th percentile queue = 250 feet to 500 feet 1 = 95th percentile queue = 500 feet to 1,000 feet																						
	3	3	5	5	5	3	4	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3
95th percentile queue length - southbound 5 = Queue removed from mainline due to design 4 = 95th percentile queue = 100 feet or less 3 = 95th percentile queue = 100 feet to 250 feet 2 = 95th percentile queue = 250 feet to 500 feet 1 = 95th percentile queue = 500 feet to 1,000 feet																						
	4	3	3	3	3	3	4	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3
<b>c. Improve the local circulation system for safe access for all transportation modes within the quadrant and freeway interchange</b>																						
i. Maintain or improve local traffic operations in "the Box" 5 = Box intersections have both better LOS and reduced queuing 3 = Box intersections have either better LOS or reduced queuing 1 = Box intersections have neither better LOS nor reduced queuing																						
	4	3	4	3	3	3	5	4	4	4	4	4	1	1	3	3	5	4	4	4	3	3
Average Intersection LOS within "the Box" 5 = LOS A or B 4 = LOS C 3 = LOS D 2 = LOS E 1 = LOS F																						
	5	5	5	4	5	5	5	5	5	5	5	5	1	1	2	2	4	4	4	5	3	5
Worst Intersection LOS within "the Box" 5 = LOS A or B 4 = LOS C 3 = LOS D 2 = LOS E 1 = LOS F																						
	4	3	3	2	3	3	5	3	2	4	4	4	1	1	2	2	4	4	4	4	4	1
Total length of queuing within "the Box" (non-freeway) 5 = 95th percentile queue = 750 feet or less 4 = 95th percentile queue = 750 feet to 1,500 feet 3 = 95th percentile queue = 1,500 feet to 2,250 feet 2 = 95th percentile queue = 2,250 feet to 3,500 feet 1 = 95th percentile queue = 3,500 feet or more																						
	3	2	3	2	2	2	4	3	3	3	3	3	1	1	4	4	5	3	3	3	3	2
Intersections blocked by queuing within "the Box" 5 = No intersections blocked 4 = 1 intersection blocked 3 = 2 intersections blocked 2 = 3 intersections blocked 1 = 4 or more intersections blocked																						
	3	3	4	4	3	3	5	5	5	5	5	5	1	1	5	5	5	5	5	5	5	3


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North/Northeast Quadrant I-5 Broadway/Weidler Plans Freeway/Local Transportation Interface Concepts Technical Evaluation Matrix - 08/10/11	2011 Existing Conditions	1. 2035 No-Build	2. Mainline Operational Improvements			3. Rebuild Structures with Mainline Operational Improvements	4. Enhance the Broadway/Weidler Interchange with Mainline Operational Improvements						5. New Concepts for the Broadway/Weidler Interchange with Mainline Operational Improvements						6. TSM/TDM/ Operations Management			
			2a. Braided Ramps		2b. Collector/ Distributor (C/D) Roads		4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three- Point Interchange (couplet)		5a. Standard Diamond Interchange (de-couple Broadway/ Weidler)		5b. Single-Point Urban Interchange (SPUI; de-couple)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange			5e. Three-Point Interchange (de-couple Broadway/ Weidler)		
			Option 1	Option 2			Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2		Option 1	Option 2		Option 1	Option 2	
<p><b>Phase II Screening Factors</b></p>  <p>Legend:  <span style="color: green;">■</span> = 5 good  <span style="color: yellow;">■</span> = 4  <span style="color: orange;">■</span> = 3  <span style="color: red;">■</span> = 2  <span style="color: darkred;">■</span> = 1 poor</p>																						
<b>3. Equitable access to community amenities and economic opportunities</b>																						
<b>a. Avoid/minimize/mitigate involuntary displacement of quadrant residents and jobs</b>																						
<p>i. Minimize risk of displacement of key employment and residential sites adjacent to I-5            5 = No risk of displacement or other impact to listed facility            4 = No risk of displacement. Some risk of circulation, access, parking or other impact            3 = Some risk of displacement or major functional changes to listed facility            2 = Moderate risk of displacement or major functional changes to listed facility            1 = High risk of displacement or major functional changes to listed facility</p>																						
- Rose Garden Arena	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement
- Convention Center	5 No risk of displacement	5 No risk of displacement	4 Low risk of impact to loading dock	4 Low risk of impact to loading dock	4 Low risk of impact to loading dock	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement
- Madrona Studios	5 No risk of displacement	5 No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	5 No risk of displacement	4 Some access changes. No risk of displacement	5 No risk of displacement	5 No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	5 No risk of displacement
- Left Bank	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	4 Increased traffic on Wheeler could impact parking. No risk of displacement	4 Increased traffic on Wheeler could impact parking. No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	5 No risk of displacement	5 No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	5 No risk of displacement
- Paramount Apartments	5 No risk of displacement	5 No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	5 No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	4 Some access changes. No risk of displacement	4 Some access changes. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	4 Reduction in parking due to Hancock/Dixon connection and increase in traffic volumes on Flint. No risk of displacement	5 No risk of displacement
- Eliot Conservation Area	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement	5 No risk of displacement
<p>ii. Minimize number of buildings demolished or properties made obsolete by reduced parking            5 = Property impacts limited to minor right-of-way expansion only. No buildings displaced            4 = 2-3 buildings would be demolished or would lose a significant amount of parking or access            3 = 4-5 buildings would be demolished or would lose a significant amount of parking or access            2 = 6-8 buildings would be demolished or would lose a significant amount of parking or access            1 = More than 8 buildings would be demolished or would lose a significant amount of parking or access</p>																						
	5 No risk of impact	5 No risk of impact	5 Limited property impacts	5 Limited property impacts	5 Limited property impacts	5 Limited property impacts	3 3-4 buildings likely directly impacted. 1-2 likely to lose significant parking	4 1-3 buildings likely directly impacted. Moderate parking impact to Left Bank Annex	4 1-3 buildings likely directly impacted. Moderate parking impact to Left Bank Annex	5 Limited property impacts	5 Limited property impacts	5 Limited property impacts	1 9 buildings likely directly impacted	1 9 buildings likely directly impacted	3 4-5 buildings likely directly impacted.	3 4-5 buildings likely directly impacted.	3 2 buildings likely directly impacted. 2-3 properties would likely lose access.	2 5 buildings likely directly impacted. 1 building would likely have significant parking loss.	2 5 buildings likely directly impacted. 1 building would likely have significant parking loss.	4 2 buildings likely directly impacted. 1 could have adverse access impacts	4 2 buildings likely directly impacted. 1 could have adverse access impacts	5 No risk of impact

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			2a. Braided Ramps		2b. Collector/Distributor (C/D) Roads		4a. Split Diamond Interchange	4b. Folded Diamond Interchange		4c. Three-Point Interchange (couplet)		5a. Standard Diamond Interchange (de-couple Broadway/Weidler)		5b. Single-Point Urban Interchange (SPU; de-couple)		5c. Diverging Diamond Interchange (DDI)	5d. Roundabout-Controlled Diamond Interchange			5e. Three-Point Interchange (de-couple Broadway/Weidler)		
			Option 1	Option 2				Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1		Option 2	Option 1		Option 2	Option 1	Option 2
<b>Phase II Screening Factors</b>  <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc; margin-right: 5px;"></span> = 5 good</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #fff2cc; border: 1px solid #ccc; margin-right: 5px;"></span> = 4</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #fce4d6; border: 1px solid #ccc; margin-right: 5px;"></span> = 3</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #f4cccc; border: 1px solid #ccc; margin-right: 5px;"></span> = 2</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #e74c3c; border: 1px solid #ccc; margin-right: 5px;"></span> = 1 poor</li> </ul>																						
<b>4. Protection and enhancement of the cultural heritage of the area and its sub-districts</b>																						
<b>a. Avoid/minimize/mitigate demolition of historic and cultural resources</b>																						
i. Avoid existing landmarks and potentially eligible historic structures 5 = No risk of demolition of existing landmarks and potentially eligible historic structures 3 = Moderate risk of demolition of existing landmarks or potentially eligible historic structures 1 = High risk of demolition of existing landmarks or potentially eligible historic structures																						
- Serene Court Apartments (1130 NE 1st Ave)	5 No risk of demolition	5 No risk of demolition	4 Low risk of demolition due to widening of I-5	4 Low risk of demolition due to widening of I-5	4 Low risk of demolition due to widening of I-5	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
- 211 NE Everett Street	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
- Left Bank Building (222 to 240 N Broadway)	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	4 Some access changes. No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
- Paramount Apartments (253 N Broadway)	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	4 Some access changes. No risk of demolition	4 Some access changes. No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
- 122 to 140 NE Broadway	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
ii. Avoid culturally significant structures 5 = No risk of demolition of culturally significant structures 3 = Moderate risk of demolition of culturally significant structures 1 = High risk of demolition of culturally significant structures																						
- 1609 NE 2nd Avenue	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition	5 No risk of demolition
<b>b. Avoid/minimize/mitigate impacts to parks and schools</b>																						
i. Avoid existing parks and schools 5 = No risk of impact to parks or schools 4 = Potential for minor right-of-way acquisition of parks or schools 3 = Potential for minor right-of-way acquisition of parks or schools affecting internal circulation 2 = Potential for major right-of-way acquisition of parks or schools 1 = Potential for full acquisition of parks or schools																						
- Tubman School	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact
- Albina Park	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact
- Peace Park/Eastbank Esplanade	5 No risk of impact	5 No risk of impact	4 Minor right-of-way acquisition may be required for new I-5 ramps	4 Minor right-of-way acquisition may be required for new I-5 ramps	4 Minor right-of-way acquisition may be required for new I-5 ramps	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact	5 No risk of impact

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			Option 1	Option 2				Option 1	Option 2	Option 1	Option 2	Option 3	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2		Option 1
<b>5. Urban design</b>																						
<b>a. Improve freeway edge conditions</b>																						
i. Minimize the footprint of the freeway 5 = No expansion from existing footprint 4 = Negligible expansion from existing footprint 3 = Minimal expansion from existing footprint 2 = Significant expansion from existing footprint 1 = Major expansion from existing footprint	5	5	4	3	3	4	2	1	1	4	4	4	1	1	1	1	1	2	2	2	1	5
<b>b. Urban redevelopment opportunities</b>																						
i. Remaining/affected parcel sizes accommodate typical residential or commercial developments 5 = Creates new or improved parcels for development 4 = Increases useable size of existing parcels 3 = Development opportunities similar to existing 2 = Compromises existing parcels 1 = Creates less developable parcels	3	3	3	3	3	3	3	2	2	3	3	3	2	2	2	2	2	2	2	2	4	3
ii. Maximize access to remnant/impacted parcels 5 = Maintains existing access 4 = Negligible impact to existing access 3 = Minor access impacts 2 = Significant access impacts 1 = Major access impacts	5	5	4	4	5	4	1	2	2	3	2	4	1	1	1	1	1	3	2	1	1	5
<b>c. Improve continuity of urban uses across the district</b>																						
i. Enables good connections to major destinations 5 = Improves connections to major destinations 4 = Enhances existing connections to major destinations 3 = Maintains connections to destinations equal to existing 2 = Limits ease of connection to major destinations 1 = Reduces ease of access to major destinations	3	3	2	1	4	3	4	4	4	4	3	4	2	2	3	4	2	3	3	2	3	3
ii. Enables good connections between complementary land uses 5 = Improves connections between neighborhoods and sub districts 4 = Enhances connections between neighborhoods and sub districts 3 = Maintains connections equal to existing 2 = Limits connectivity between neighborhoods and sub districts 1 = Creates obstacles to connectivity between neighborhoods and sub districts	3	3	4	3	4	3	3	5	5	4	2	4	3	2	2	4	2	3	4	3	4	4

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