KITTELSON & ASSOCIATES
101 S CAPITOL BOULEVARD, SUITE 600
BOISE, ID 83702
P 208.338.2683 F 208.338.2685

TECHNICAL MEMORANDUM #5 (Exit 210)

Pendleton IAMPs: Exit 210

Detailed Evaluation of Select Concepts

Date:	June 17, 2020	Project #: 24043
To:	Technical Advisory Committee, Citizen Advisory Committee	
From:	Mark Heisinger, Nick Foster, AICP, RSP, and Matt Hughart, AICP	

This memorandum describes and evaluates a select number of interchange and local circulation improvement concepts developed to provide for long-term growth in the vicinity of the Interstate 84 (I-84) Exit 210 interchange. These select concepts were rooted in the preliminary concept development and evaluation process in which two stages of concept evaluation were conducted. First, a set of seven preliminary concepts were developed by the project team based on input from the project's advisory committees. The project team screened these concepts and solicited feedback from the advisory committees and general public. Based on this screening, the Project Management Team selected two concepts to move forward for more detailed evaluation. These select concepts are the focus of this Technical Memorandum.

SUMMARY OF PRELIMINARY CONCEPT EVALUATION

The Exit 210 interchange and local circulation improvement ideas were initially developed by members of the project team, the Technical Advisory Committee (TAC), and the Citizen Advisory Committee (CAC) at the January 29, 2020 TAC/CAC meeting to address known, and anticipated future, geometric and traffic operations and safety conditions. Following this initial work session, the project team distilled the ideas presented at the meeting into seven unique preliminary concepts. These seven concepts were evaluated in *Technical Memorandum #5a,* which included a summary of the concept development process, a qualitative evaluation of the seven preliminary concepts, a summary of public feedback from an on-line feedback tool, and the concepts chosen to be evaluated at a more detailed level. Table 1 summarizes the results of this screening process. *Technical Memorandum #5a is included as Attachment "A"*.

Table 1 Exit 210 Preliminary Concept Screening Results

Concept Description	Included for Further Evaluation?	Justification
Concept #1 - This concept converts the existing interchange to a split diamond interchange in which the westbound off-ramp and the eastbound on-ramp would be further to the east (where Old Dump Road is)	Yes	Third highest score. Supported by survey respondents.
Concept #2 - This concept converts the existing interchange to a split diamond interchange in which the westbound off-ramp and the eastbound on-ramp would be further to the east (where Goad Road is)	No	Interchange spacing and length of frontage roads are not likely to be approved by FHWA
Concept #3 - This concept creates a five-legged roundabout at the westbound ramp terminal	No	Roundabout constructability challenges and south side roads are not feasible from a grade/topography standpoint. Low score.
Concept #4 - This concept modifies the Kirk Avenue/OR-11 intersection so that it is only a right-in/right-out access	No	Right-in/right-out access only to Kirk Avenue is not an ideal long-term solution.
Concept #5 - This concept realigns the intersection of Kirk Avenue/OR-11 to the north to improve spacing between it and the I-84 Westbound ramp terminal	Yes	Highest scoring concept. Provides intuitive access to north side.
Concept #6 - This concept relocates the eastbound ramps, which would eliminate the existing close spacing between Nye Avenue and eastbound ramps	No	Interchange relocation impacts to private property and may transfer access challenges to a new location.
Concept #7 - This option creates roundabouts at the I-84 ramp terminals and at Nye Avenue	No	Roundabouts at the EB and WB ramp terminals are likely not feasible due to significant downslope of OR 11.

Through the survey responses and discussions with the City and ODOT, two additional concepts that are slight modifications to Concept #1 and Concept #5 were also moved forward for traffic operations evaluations:

- **Concept #5B –** Concept 5 with a right-in access from OR 11 at the existing Kirk Avenue alignment.
- **Concept #1 with Concept #5B –** Concept #1 and Concept #5B improvements. In this scenario, Concept #5B would be used as an interim solution before Concept #1 is implemented.

DETAILED EVALUATION OF SELECT CONCEPTS

Concepts #1 and #5 were analyzed with respect to future traffic operations, future safety affects, and planning-level cost estimates. Refined concept drawings were also prepared that consider the area's topography and the expected lane configurations and traffic control at the study intersections. Traffic operations were also analyzed for Concept #5B and the combination of Concepts #1 and #5B.

Conceptual drawings of Concept #1 and Concept #5 are shown in Figure 1 and Figure 2, respectively.

Concept #1 Conceptual Drawing
Pendleton, OR

Figure
1

Concept #5 Conceptual Drawing
Pendleton, OR

Figure
2

Future Traffic Operations

The project team analyzed year 2040 AM and PM peak hour transportation operations at the project study intersections, as well as proposed new ramp terminal intersections, for all concepts. The traffic operations analysis was performed in accordance with the same methodologies used for the existing conditions operations analysis, presented in the *Methodology Memorandum* (Reference 1). The initial traffic operations analysis was performed assuming that existing stop-control remained at all study intersections. Where this did not result in intersections meeting their mobility targets and planning-level signal warrants were met, the project team modified the concept design to include traffic signals and turn lanes. The mobility targets for the study intersections are shown in Table 2. The following sections describe the traffic operations analysis results for each concept. *The complete operations reports and signal warrant analysis worksheets are included in Attachment "B".*

Table 2 – Study Intersection Performance Targets

Intersection	OHP Mobility Target
OR 11/SE Isaac Avenue	0.80 OR 11 approach / 0.90 Isaac Avenue approach
OR 11/SE Kirk Avenue	0.80 OR 11 approach / 0.90 Kirk Avenue approach
I-84 Westbound Ramp Terminal/OR 11	0.85[1]
I-84 Eastbound Ramp Terminal/OR 11	0.85[1]
SE 3rd Avenue/SE Nye Avenue[2]	-

[1] The I-84 westbound and eastbound ramp terminals were evaluated with a more conservative v/c of 0.85 per Action 1F.1 of the Oregon Highway Plan.
[2] The City of Pendleton does not have intersection or roadway performance targets – target v/c of 0.90 assumed.

Concept #1

Concept #1 creates a split diamond interchange by adding frontage roads connecting the existing ramp terminal intersections to new ramp terminal intersections to the east. The new ramp terminal intersections are at a new alignment of Old Dump Road, with a new underpass of I-84. The Kirk Avenue/ OR 11 intersection is removed, so access to development northeast of the Exit 210 interchange is provided through the new alignment and extension of Old Dump Road, Isaac Avenue, and other roadways northeast of the study area.

Lane configurations and traffic control for Concept #1 study intersections are shown in Figure 3. The estimated year 2040 traffic volumes and operations for Concept #1 are shown in Figure 4 and Figure 5 for the AM and PM peak hours, respectively. Given these lane configurations and traffic control, all study intersections in Concept #1 meet their mobility targets and operate at LOS 'C' or better in the AM and PM peak hours.

Concept #1 requires traffic signals at the SE Isaac Avenue/OR 11 and I-84 EB Off-Ramp/OR 11 intersections for those intersections to meet their mobility targets. Planning-level signal warrants are forecast to be met at each location. An eastbound left-turn lane is also recommended at the I-84 EB Off-Ramp/OR 11 intersection to mitigate queue spillback. A roundabout is recommended at the Nye Avenue/3rd Drive intersection to provide for long-term operations as the intersection will be close to exceeding its mobility target as a stop-controlled intersection in 2040.

Concept #5

Concept #5 re-locates the Kirk Avenue/OR 11 intersection to the north to improve spacing between Kirk Avenue and the Exit 210 ramp terminals. The Nye Avenue / 3rd Drive intersection is re-located to the south to provide more space between the intersection and the Exit 210 ramp terminals. It is also reconstructed as a roundabout. All access to development to the northeast of Exit 210 is provided through Kirk Avenue, Isaac Avenue, and other roadways northeast of the study area.

Lane configurations and traffic control for Concept #5 study intersections are shown in Figure 6. The estimated year 2040 traffic volumes and operations for Concept #5 are shown in Figure 7 and Figure 8 for the AM and PM peak hours, respectively. Given these lane configurations and traffic control, all study intersections in Concept #5 meet their mobility targets and operate at LOS 'B' or better in the AM and PM peak hours.

Concept #5 requires traffic signals at most study intersections to meet their mobility targets. Planning-level signal warrants are forecast to be met at each location. A roundabout is recommended at the Nye Avenue/3rd Drive intersection to provide for long-term operations as the intersection will be close to exceeding its mobility target as a stop-controlled intersection in 2040.

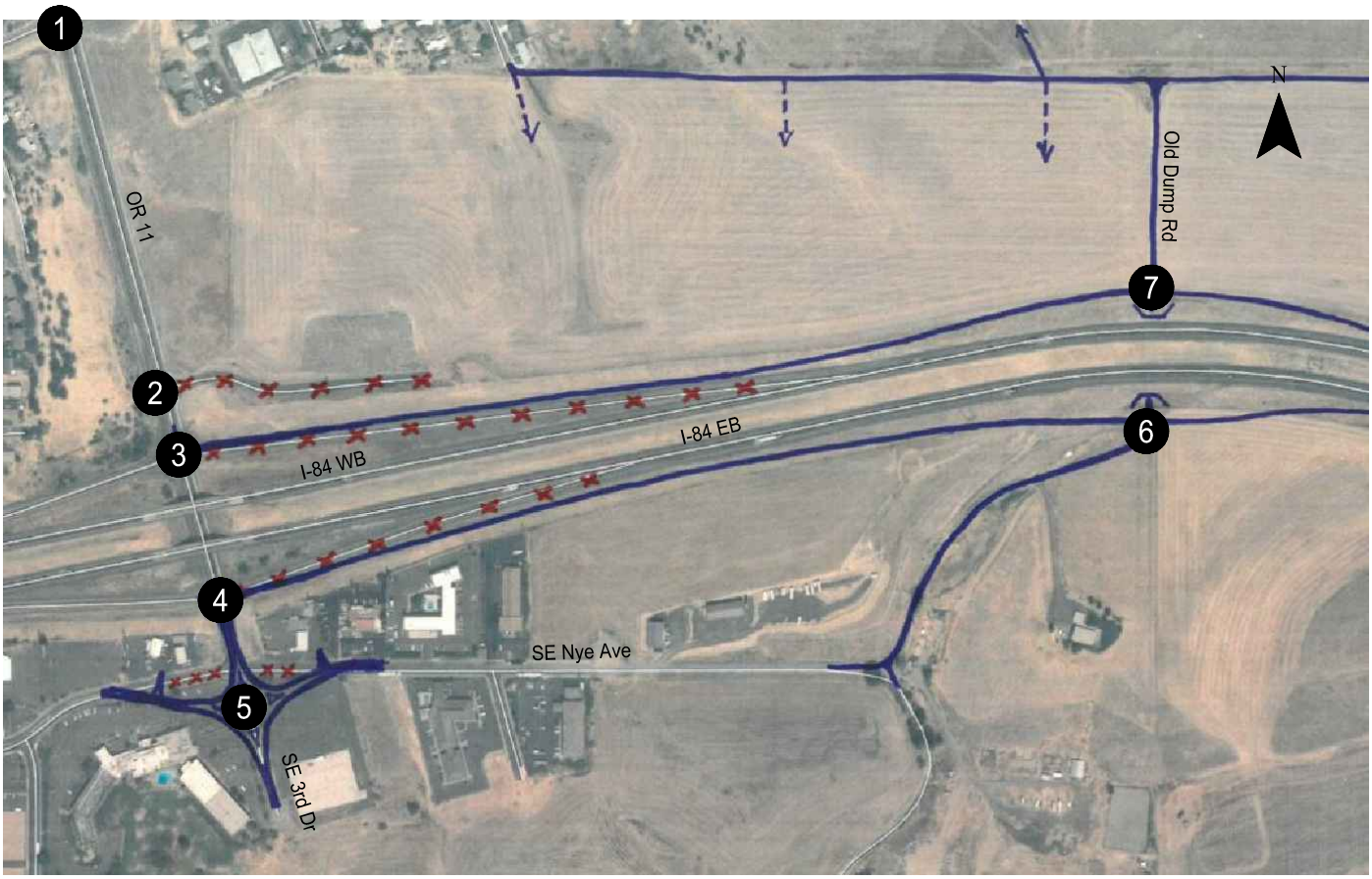
Concept #5B

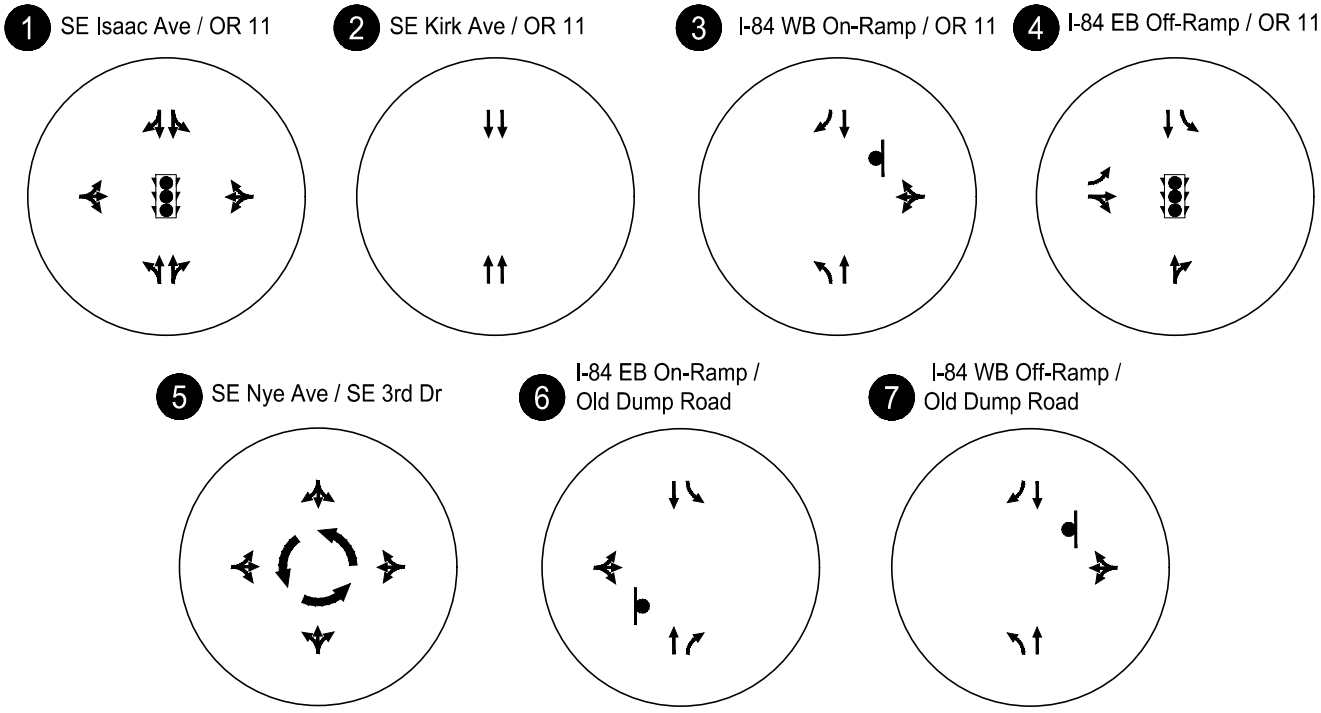
Concept #5B has the same modifications as Concept #5, but also allows northbound vehicles to take a right-in at the existing Kirk Avenue alignment. This concept provides an additional access to development northeast of Exit 210 and its primary benefit is reducing out-of-direction travel, especially for delivery vehicles, which would otherwise have to travel further downgrade on OR 11 before climbing back up to the top of the existing Kirk Avenue. It provides limited operational benefits at the Kirk Avenue intersection (an approximately 5% increase in capacity for the westbound vehicle movements).

Concept #1 with Concept #5B

Concept #1 with Concept 5B implements the Concept #1 split diamond interchange, assuming that Concept #5B has already been constructed as a first phase. By allowing full access at the new Kirk Avenue alignment and the new ramp terminal intersections at Old Dump Road (Extended), this concept would provide the highest amount of access options to development northeast of Exit 210.

Concept #1 with Concept #5B does not provide significant operational benefits over Concept #1 or Concept #5. Traffic signals are required at the SE Isaac Avenue / OR 11 and I-84 EB Off-Ramp / OR 11 intersections for those intersections to meet their mobility targets. An eastbound left-turn lane is required at the I-84 EB Off-Ramp / OR 11 intersection to mitigate queue spillback to the Nye Avenue / 3rd Drive intersection.





LEGEND

- # - Study Intersections
- - Stop Sign
- - Lane Movement
- - Roundabout
- - Traffic Signal

Lane Configurations
Concept 1, Exit 210
Pendleton, OR

Figure 3

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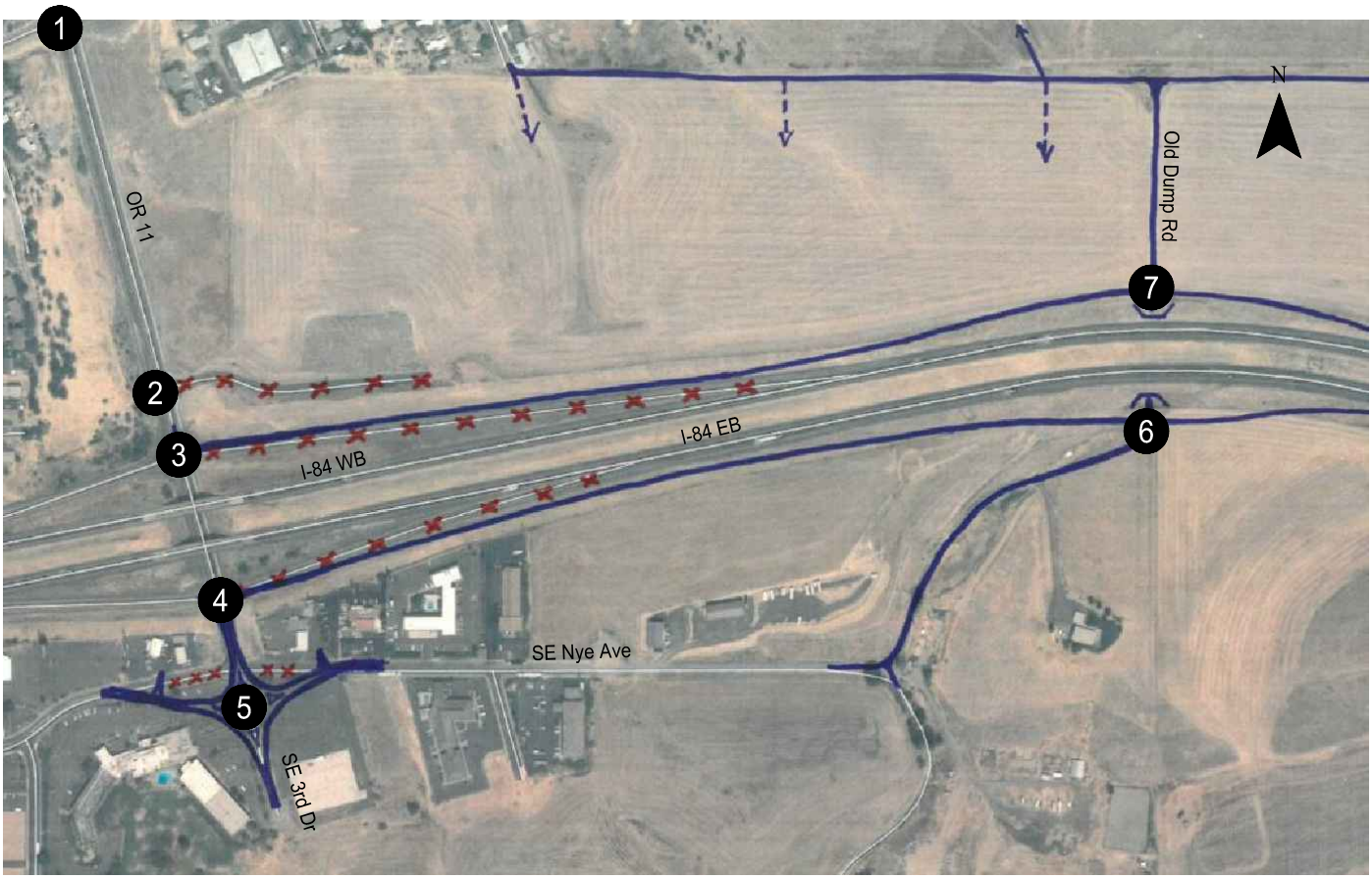

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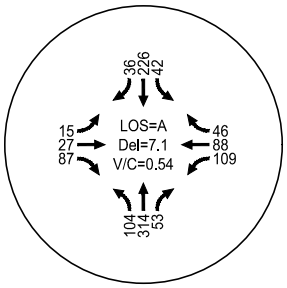
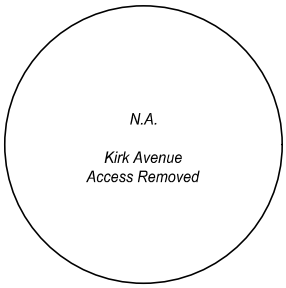
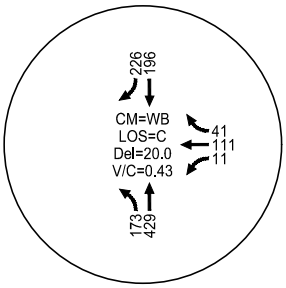


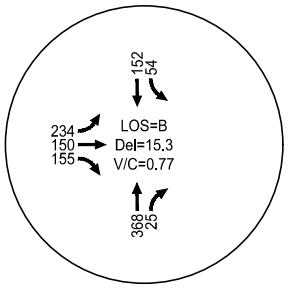
2 SE Kirk Ave / OR 11



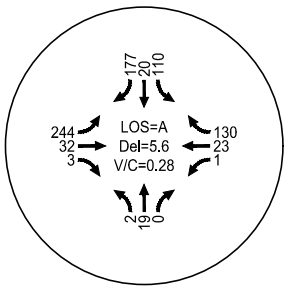
3 I-84 WB On-Ramp / OR 11



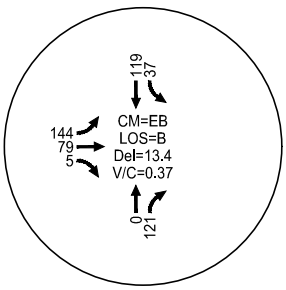
4 I-84 EB Off-Ramp / OR 11



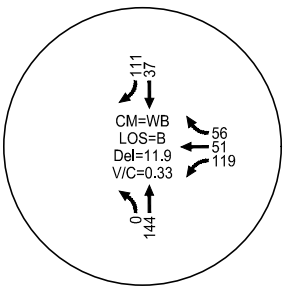
5 SE Nye Ave / SE 3rd Dr



6 I-84 EB On-Ramp / Old Dump Road



7 I-84 WB Off-Ramp / Old Dump Road

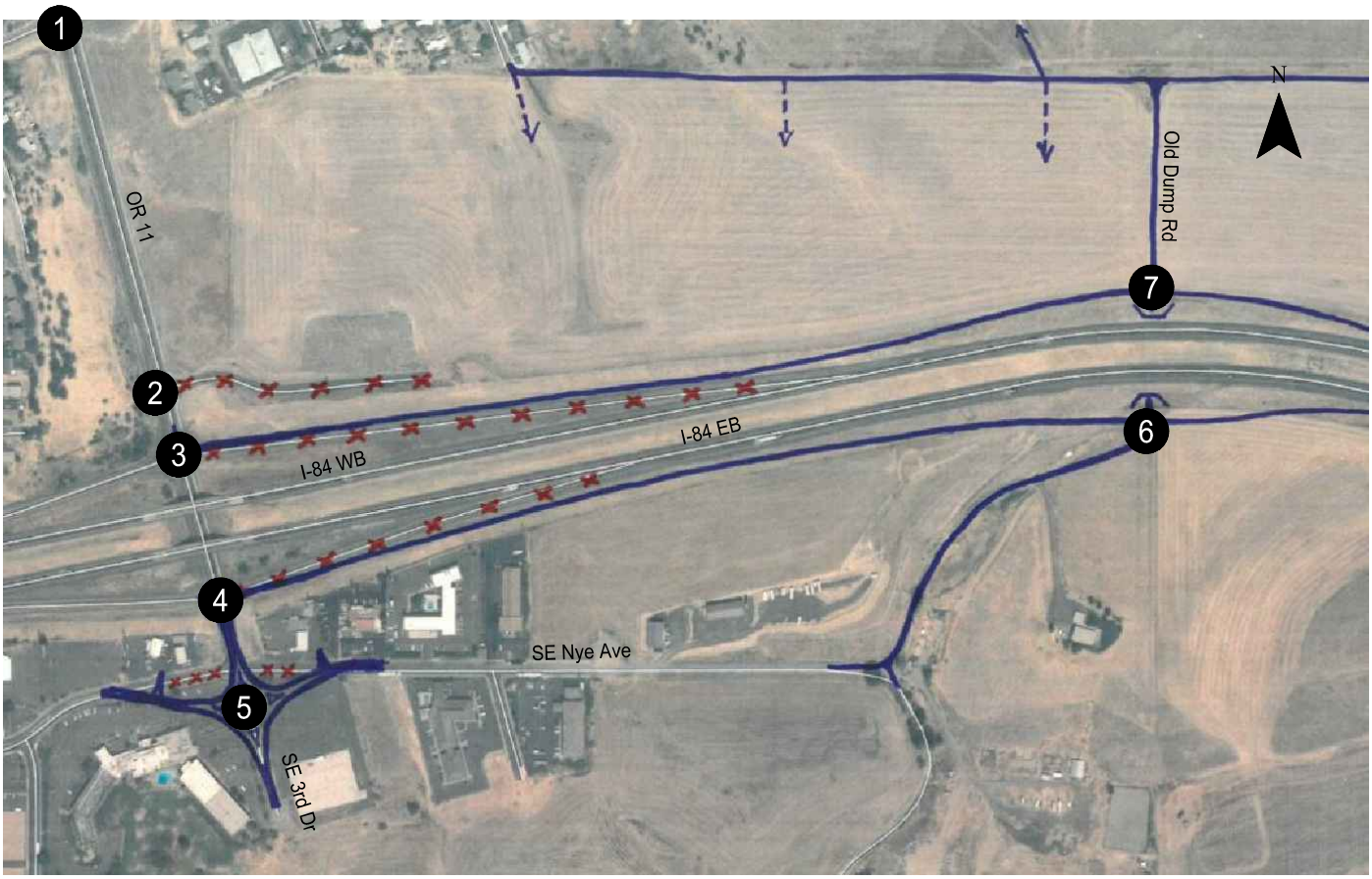


LEGEND

- # - Study Intersections
- CM - Critical Movement
- LOS - Level of Service
- Del - Vehicle Delay (s)
- V/C - Volume-To-Capacity Ratio

Future AM - Traffic Volumes and Operations
Concept 1, Exit 210
Pendleton, OR

Figure 4



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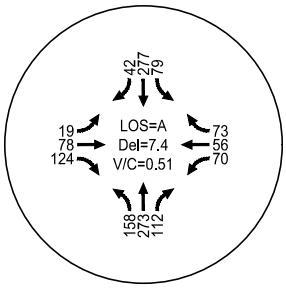

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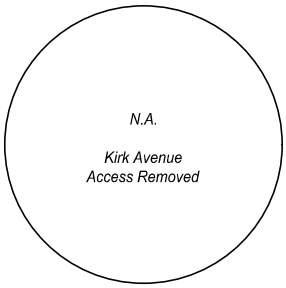
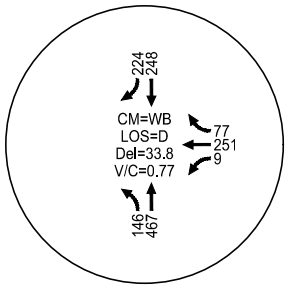


3 I-84 WB On-Ramp / OR 11



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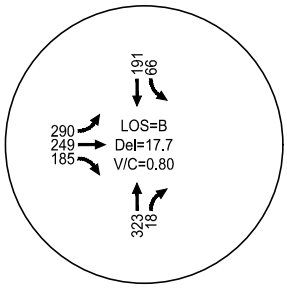
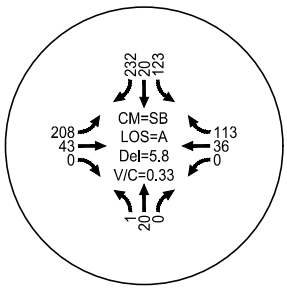
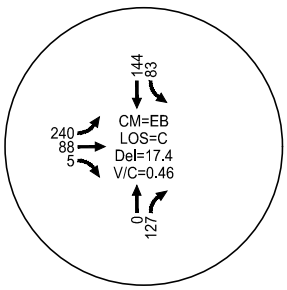


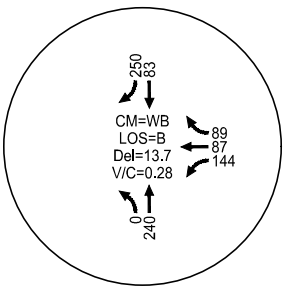
5 SE Nye Ave / SE 3rd Dr



6 I-84 EB On-Ramp / Goad Road



7 I-84 WB Off-Ramp / Goad Road



LEGEND

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- LOS - Level of Service
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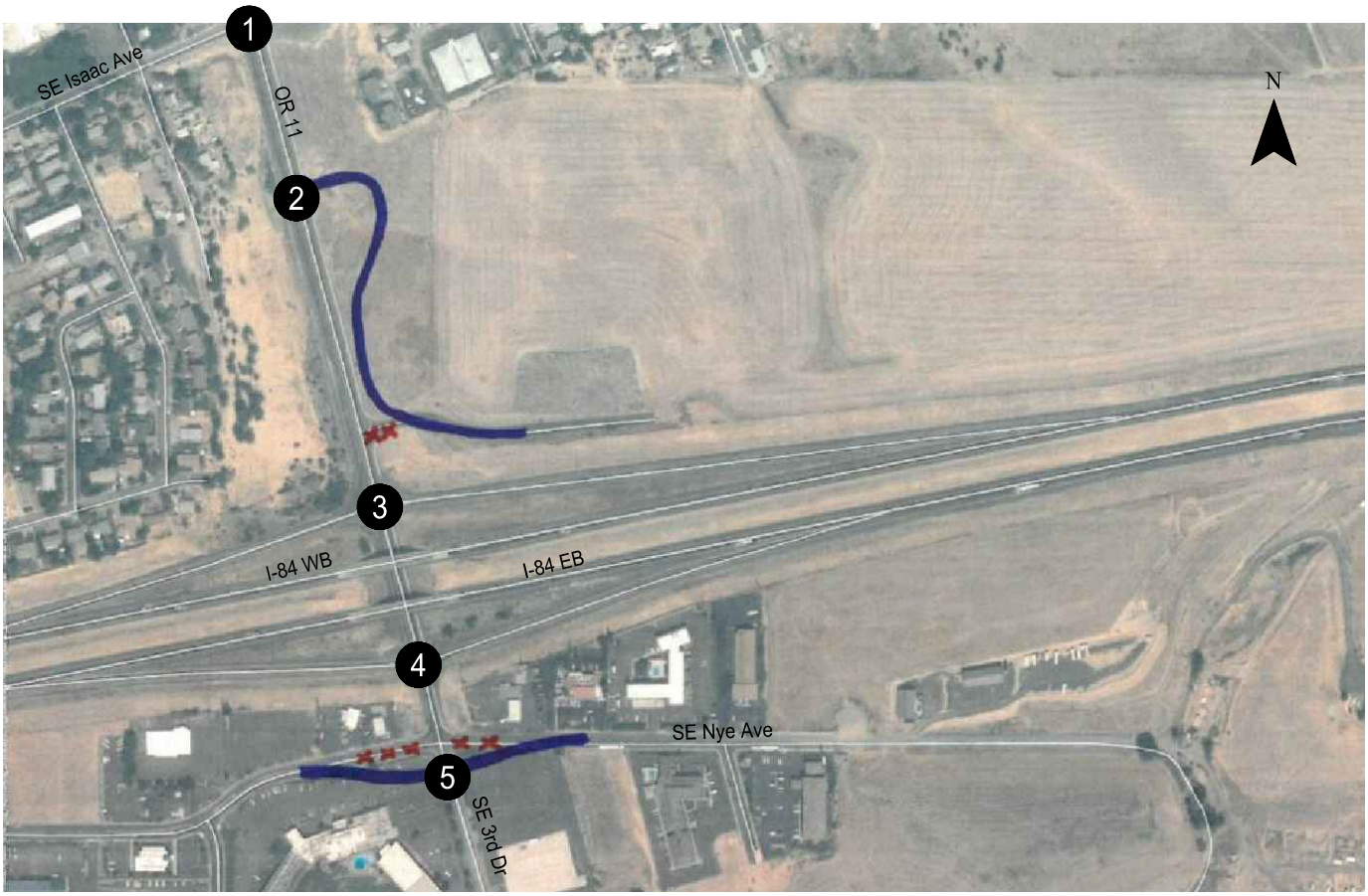
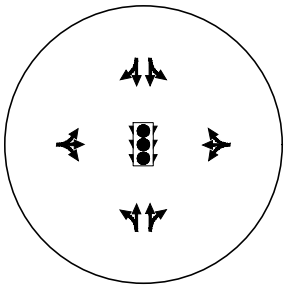
Future PM - Traffic Volumes and Operations
Concept 1, Exit 210
Pendleton, OR

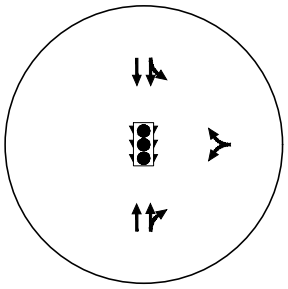
Figure 5



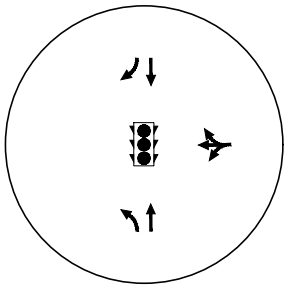
1 SE Isaac Ave / OR 11



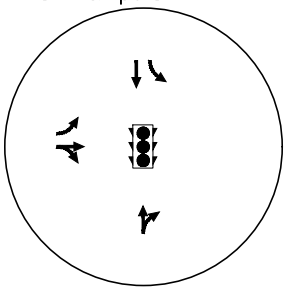
2 SE Kirk Ave / OR 11



3 I-84 WB On-Ramp/ I-84 WB Off-Ramp / OR 11



4 I-84 EB Off-Ramp / I-84 EB On-Ramp / OR 11



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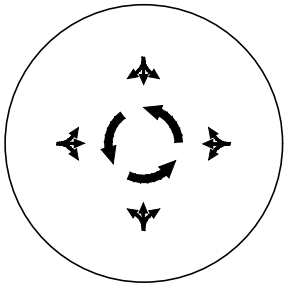
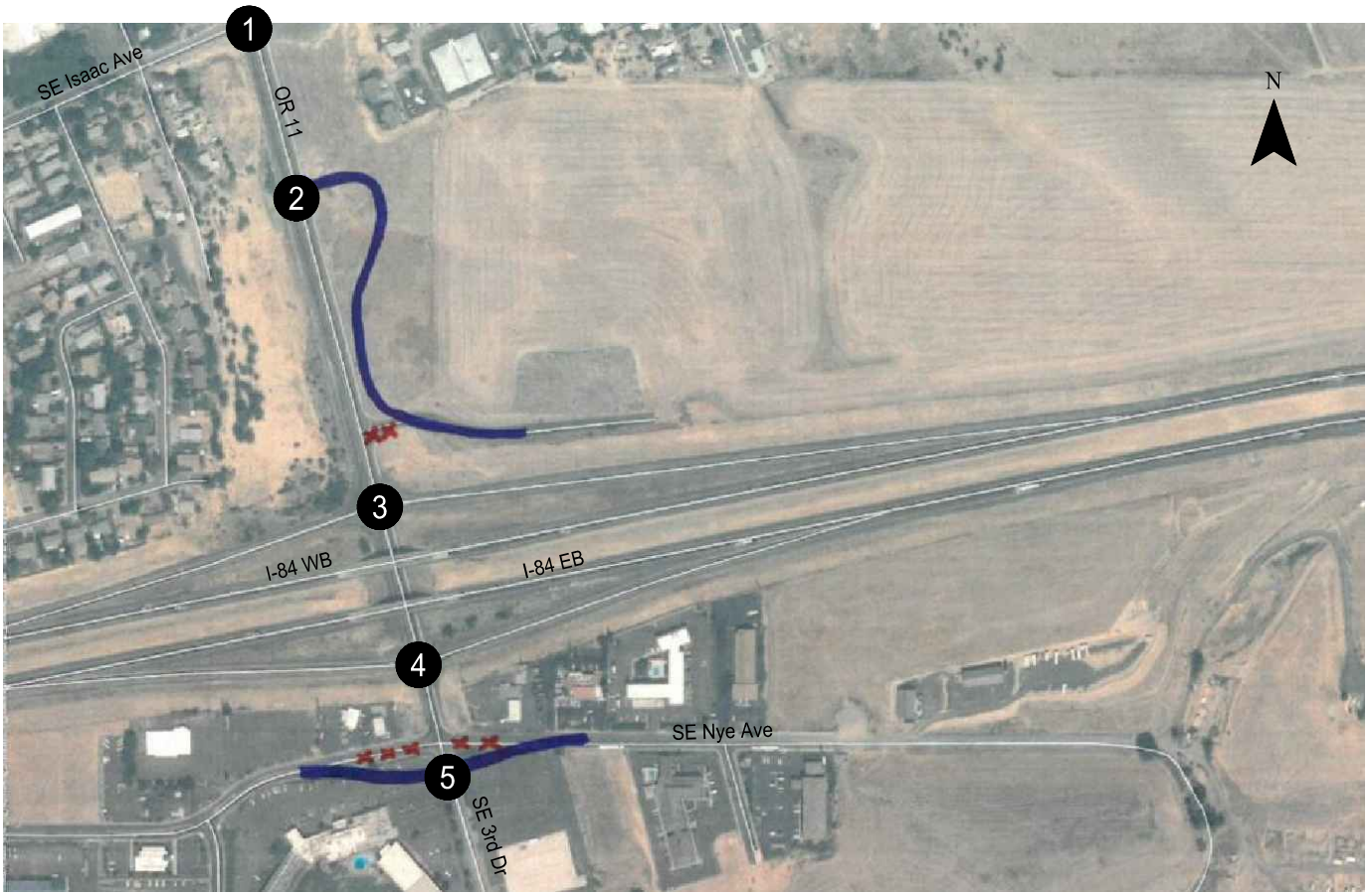


LEGEND

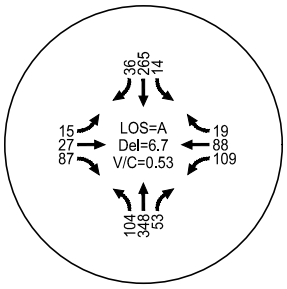
- # - Study Intersections
- - Stop Sign
- - Lane Movement
- - Roundabout
- - Traffic Signal

Lane Configurations
Concept 5, Exit 210
Pendleton, OR

Figure
6



1 SE Isaac Ave / OR 11



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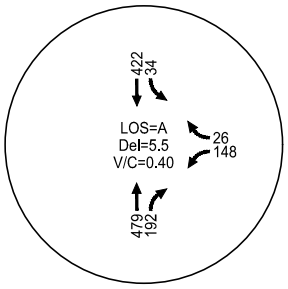
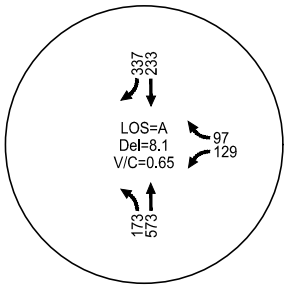
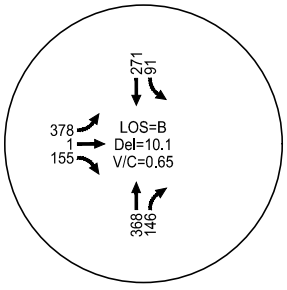


3 I-84 WB Ramp Terminal / OR 11



4 I-84 EB Ramp Terminal / OR 11



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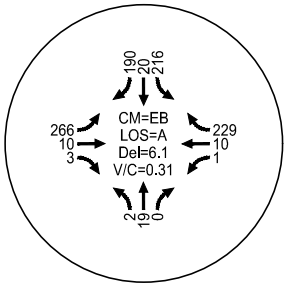
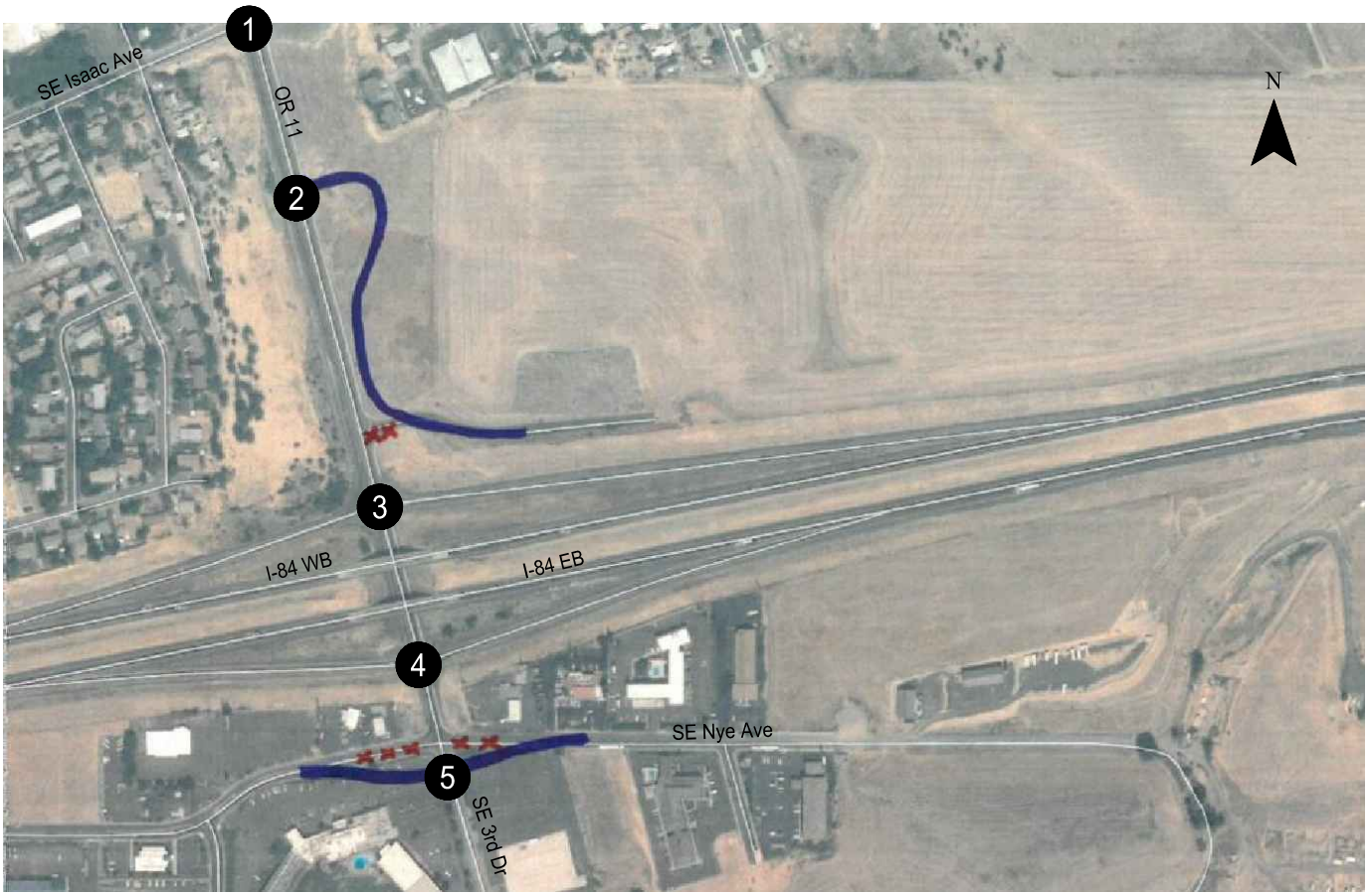


LEGEND

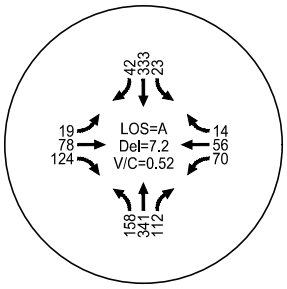
- # - Study Intersections
- CM - Critical Movement
- LOS - Level of Service
- Del - Vehicle Delay (s)
- V/C - Volume-To-Capacity Ratio

Future AM - Traffic Volumes and Operations
Concept 5 - Exit 210
Pendleton, OR

Figure 7



1 SE Isaac Ave / OR 11



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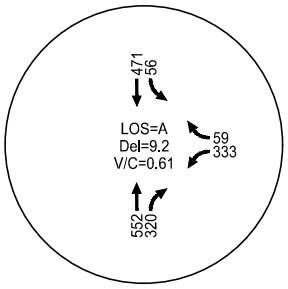

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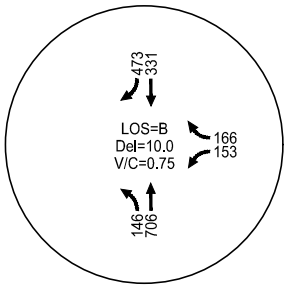
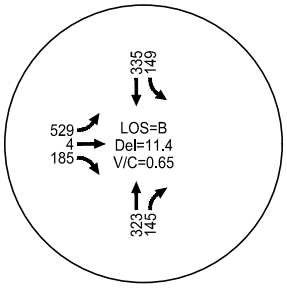
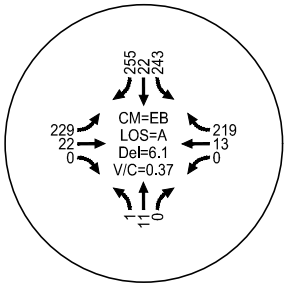


4 I-84 EB Ramp Terminal / OR 11



5 SE Nye Ave / SE 3rd Dr



LEGEND

- # - Study Intersections
- CM - Critical Movement
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- V/C - Volume-To-Capacity Ratio

Future PM - Traffic Volumes and Operations
Concept 5, Exit 210
Pendleton, OR

Figure
8

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Potential Reallocation of Right-of-Way on OR 11

There has also been an expressed desire from the project advisory committees to explore reallocating roadway space on OR 11 between the I-84 WB ramp terminal and the north side of the bridge over the railroad where the existing bike lanes begin/end. This would involve removing one motor vehicle travel lane in each direction and replacing them with left-turn lanes at each intersection (and a median in between intersections), bike lanes, and sidewalks (where these are not already present) on both sides of the road. This reallocation could occur within any of the concepts presented above. The project team analyzed the potential effects of this lane reallocation on traffic operations at the OR 11 Kirk Avenue and Isaac Avenue intersection. Figure 9 shows the resulting lane configurations and traffic control devices for each intersection for each concept. Table 3 shows that the intersections are still forecast to meet their mobility targets after the reallocation.

Table 3 Traffic Operations with OR 11 Roadway Space Reallocation

Intersection	Concept 1 – AM (PM)		Concept 5 – AM (PM)	
	V/C	LOS	V/C	LOS
Kirk Avenue/OR 11	N.A.	N.A.	0.62 (0.68)	A (A)
Isaac Avenue/OR 11	0.58 (0.54)	A (A)	0.58 (0.54)	A (A)

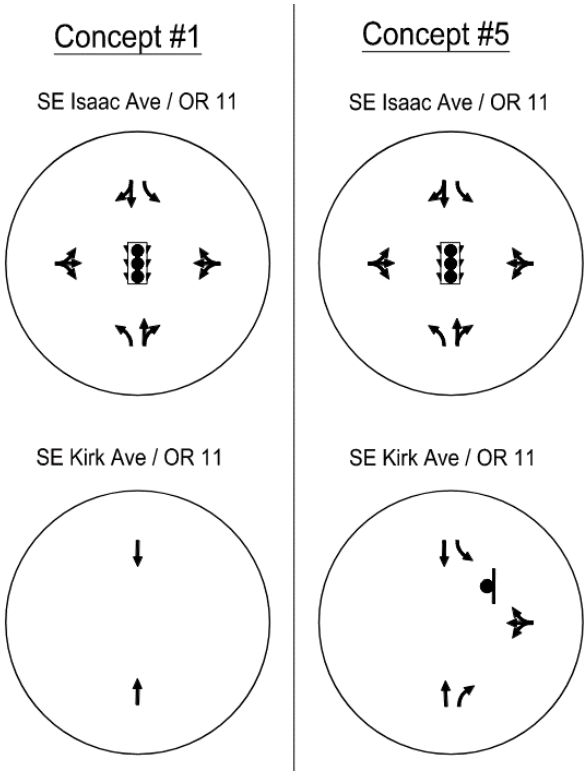

Figure 9 Intersection Lane Configuration with OR 11 Roadway Space Reallocation

Interim Crossing Improvements at Isaac Avenue/OR 11

There is a marked and signed crosswalk across OR 11 on the south side of its intersection with Isaac Avenue. This crossing links the neighborhoods on either side of OR 11 and provides a connection to downtown Pendleton and school bus stops for residents east of OR 11. It is identified for an enhanced crossing in the City's Transportation System Plan (TSP, Reference 2). Both concepts recommend signalizing the Isaac Avenue intersection when signal warrants are met. In the interim, before signal warrants are met, this crossing could be upgraded with a rectangular rapid flashing beacon (RRFB) or a pedestrian hybrid beacon (PHB). The potential reallocation of space along OR 11 discussed previously would further improve this crossing by reducing the number of lanes of traffic needing to be crossed.

Future Safety Effects

The crash histories at the study intersections and along the study area roadways were reviewed in the *Existing Conditions: Transportation System Operations* memorandum (Reference 4). This section identifies crash reduction factors (CRFs) for the roadway and intersection treatments proposed in Concept #1 and Concept #5. The CRFs are used to estimate the potential reduction in crashes that could occur with the implementation of the proposed concepts.

There are not CRFs for each treatment proposed in the concepts (e.g., there is no CRF for converting a standard diamond interchange into a split diamond interchange). Therefore, not all treatments are analyzed. Table 4 shows the treatments for which CRFs are readily available.

Table 4 Crash Reduction Factors

Scenario	Countermeasures Considered	CRF[1]	Appropriate Intersections/Segments
Concept #1	Convert intersection with minor-road stop control to traffic signal	67% (Angle-Related Crashes) - 143% (Rear-End Crashes)	• SE Isaac Ave / OR 11 • I-84 EB Ramp Terminal / OR 11
	Convert intersection with minor-road stop control to modern roundabout	82% (Injury/Fatal Crashes)	• SE Nye Ave / 3rd Drive
	Convert 4-Lane Roadway to 3-Lane Roadway with Center Turn Lane (Road Diet)	29% (All Crashes)	• OR 11 (I-84 WB Ramp Terminal to SE Isaac Ave)
Concept #5	Convert intersection with minor-road stop control to traffic signal	67% (Angle-Related Crashes) - 143% (Rear-End Crashes)	• SE Isaac Ave / OR 11 • SE Kirk Ave / OR 11 • I-84 WB Ramp Terminal / OR 11 • I-84 EB Ramp Terminal / OR 11
	Convert intersection with minor-road stop control to modern roundabout	82% (Injury/Fatal Crashes)	• SE Nye Ave / 3rd Drive
	Convert 4-Lane Roadway to 3-Lane Roadway with Center Turn Lane (Road Diet)	29% (All Crashes)	• OR 11 (I-84 WB Ramp Terminal to SE Isaac Ave)

[1]ODOT Crash Reduction Factor List

Table 5 shows the adjusted crash rates at the study intersections and roadway segments, based on the application of the CRFs presented in Table 4. Both concepts are expected to reduce the study intersection and roadway segment crash frequencies in the study area by similar amounts when these CRFs are applied to the reported crashes for the most recent five year period for which data is available.

Table 5: Crash Rate[1] Assessment

Study Intersection or Segment	Observed Crashes/Year[1]	Adjusted Crashes/Year Concept #1	Adjusted Crashes/Year Under Concept #5
SE Isaac Avenue / OR 11	1.00	0.75	0.75
SE Kirk Avenue / OR 11	0	0[2]	0[2]
I-84 WB Ramp Terminal / OR 11	0.40	0.40	0.27
I-84 EB Ramp Terminal / OR 11	0.80	0.68	0.68
SE Nye Avenue / SE 3rd Drive	0	0[2]	0[2]
OR 11 (I-84 WB Ramp Terminal to SE Isaac Ave)	1.2	0.85	0.85
Total	**3.40**	**2.68**	**2.55**

[1]Observed crashes per year from 2013 to 2017.
[2] The number of crashes per year in the long-term is likely more than 0; however, no crashes were reported at this intersection from 2013 to 2017.

Cost Estimates

Planning level cost estimates were developed for Concept #1 and Concept #5. The total estimated project cost is $11,700,000 to $12,900,000 for Concept #1 and $7,300,000 to $8,100,000 for Concept #5. The project cost estimate for Concept #1 is approximately 60% higher than the project cost estimate for Concept #5. *Detailed breakdowns of the estimated project costs are shown in Attachment C*.

EVALUATION RESULTS

Table 6 summarizes the results of evaluating Concepts #1 and #5 against the evaluation criteria set forth in the *IAMP Definition and Background Memorandum* (Reference 4). These concepts were previously evaluated against these criteria at a high level as part of the screening evaluation summarized in Technical Memorandum #5a. This evaluation takes that screening one step further by refining the criteria and conducting a comparative analysis. Green shading indicates which concept performs best under that evaluation criteria. Orange shading indicates which concept performs worst under that evaluation criteria.

Based on the evaluation shown in Table 6 , Concept #5B scores better than Concept #1. It meets the project objectives, outperforms Concept #1 against the project evaluation criteria, and costs less. Concept #1 could be constructed after Concept #5B as a second phase if additional access to property east of the interchange is desired. However, the additional traffic operations benefit expected from this concept is expected to be relatively small compared to its cost.

We recommend that the preferred alternative be moved forward with the reallocation of space on OR 11 to reduce the number of travel lanes and provide additional sidewalks and bike lanes, as previously described.

Table 6 Refined Concept Evaluation Results

Category	Evaluation Criteria	Concept Performance		Best Performing Concept
		Concept 1	Concept 5/5B	
Transportation	Addresses the limited intersection spacing between the WB ramp terminal and Kirk Avenue.	Kirk Avenue access to OR 11 is removed.	Kirk Avenue access to OR 11 is re-located approximately 500 feet from its existing alignment.	Concept #1
	Addresses the limited intersection spacing between the EB ramp terminal and Nye Avenue.	Nye Avenue is re-located approximately 125 feet south of its existing alignment	Nye Avenue is re-located approximately 125 feet south of its existing alignment	*Both Concepts Perform the Same*
Safety	Reduces crash potential	Total expected crash reduction of 0.71 crashes per year	Total expected crash reduction of 0.85 crashes per year	Concept #5/5B
Mobility	Improves mobility for people walking and biking	Provides signalized crossings at two intersections. OR 11 reallocation can provide further benefits.	Provides signalized crossings at four intersections. OR 11 reallocation can provide further benefits.	Concept #5/5B
Land Use/ Economic Development	Accommodates future growth and minimizes right-of-way impacts	Provides access to development northeast of Exit 210 via an extension of Old Dump Road. Higher level of right-of-way impact due to frontage roads, new ramp terminal intersection, and Nye Avenue re-location. Access to the northeast area would also require out-of-direction travel for some traffic.	Provides access to development northeast of Exit 210 via Kirk Avenue. Moderate level of right-of-way impact with Nye Avenue and Kirk Avenue re-locations, but less than in Concept 1. Allowing a right-in to remain at the existing Kirk Avenue further enhances access to the northeast area.	Concept #5/5B
Accessibility	Moves in the direction of ODOT access spacing requirements	Kirk Avenue access removed and Nye Avenue re-located (still within ¼ mile of EB ramp terminal)	Kirk Avenue and Nye Avenue re-located (both still within ¼ mile of EB or WB ramp terminals)	Concept #1
Cost	Planning level cost estimates	$11,700,000 to $12,900,000	$7,300,000 to $8,100,000	Concept #5/5B
Implementation	Constructability	While the majority of the split diamond interchange could be constructed while maintaining existing traffic, the scale of the project is comparatively large with many unknown complexities. The location of the new interchange may not meet FHWA spacing standards.	Kirk Avenue re-alignment would require significant regrading and large retaining walls against the steep hillside, but it could be completed without affecting the operation of the interchange.	Concept #5/5B

PRELIMINARY ACCESS MANAGEMENT PLAN

In addition to the preliminary concept recommendations described above, the project team has developed preliminary access management plans for the Operations and Access Study Area (OASA). The plan aims to move access locations in the OASA towards ODOT's access spacing standards through consolidation of driveways and relocation of public streets. Implementation of access management is anticipated to occur through the development and redevelopment of properties over time.

As Table 7 shows, there are 50 accesses within the OASA. Table 7 also summarizes the proposed access management plan for the Exit 210 OASA for accesses located within ODOT's ¼-mile spacing standard. Accesses shaded grey are located within ¼ mile of the interchange ramp terminals. *A map showing the locations of each access is shown in Attachment D.*

Table 7 Exit 210 IMSA Access Inventory

Access Number	Roadway	Approach Type	Side of Roadway	What Does the Access Serve?	Proposed Access Management Plan Action Under Concept Alternatives
1	OR 11	Public	West	Isaac Ave	No changes are proposed to accesses located outside of ODOT's ¼-mile spacing standard.
2	OR 11	Public	East	SE 5th St	
3	OR 11	Public	East	Kirk Ave	Concept 5/5B would re-locate Kirk Avenue approximately 500 feet north. Access would still be within ¼-mile of I-84 WB ramp terminal intersection. Concept 1 would remove Kirk Avenue access to OR 11.
4	3rd Dr	Public	Both	Nye Ave	All concepts would re-locate 3rd Drive / Nye Avenue intersection approximately 200 feet south. Access would still be within ¼ mile of I-84 WB ramp terminal intersection.
5	3rd Dr	Private	West	Red Lion Hotel	Revisit access location and configuration when property redevelops
6	3rd Dr	Private	East	Vacant Commercial Lot	Revisit access location and configuration when property redevelops
7	Nye Ave	Public	South	SW 3rd Pl	No changes are proposed to accesses located outside of ODOT's ¼-mile spacing standard.
8	Nye Ave	Private	North	Residential Driveway	
9	Nye Ave	Private	North	Residential Driveway	
10	Nye Ave	Private	North	Residential Driveway	
11	Nye Ave	Private	North	Residential Driveway	
12	Nye Ave	Private	North	Residential Driveway	
13	Nye Ave	Public	South	SW 2nd St	
14	Nye Ave	Private	North	Residential Driveway (undeveloped lot)	
15	Nye Ave	Private	North	Residential Driveway (undeveloped lot)	
16	Nye Ave	Private	North	Residential Driveway (undeveloped lot)	
17	Nye Ave	Private	North	Residential Driveway	
18	Nye Ave	Private	South	Office Building	
19	Nye Ave	Private	North	Hampton Inn	
20	Nye Ave	Private	South	Utility/Maintenance Yard	
21	Nye Ave	Private	South	Residential Apartments	
22	Nye Ave	Private	North	Hampton Inn	
23	Nye Ave	Private	South	Utility/Maintenance Yard	
24	Nye Ave	Private	North	Office Building	
25	Nye Ave	Private	North	Office Building	

Access Number	Roadway	Approach Type	Side of Roadway	What Does the Access Serve?	Proposed Access Management Plan Action Under Concept Alternatives
26	Nye Ave	Private	South	Office Building	
27	Nye Ave	Private	South	Office Building	
28	Nye Ave	Private	North	Office Building	
29	Nye Ave	Private	North	Office Building	
30	Nye Ave	Public	South	SE 3rd St	
31	Nye Ave	Private	South	Red Lion Hotel	
32	Nye Ave	Private	North	Office Building	
33	Nye Ave	Private	North	Parking Lot	
34	Nye Ave	Private	North	Chevron	
35	Nye Ave	Private	North	Chevron	
36	Nye Ave	Private	North	Chevron	
37	Nye Ave	Private	South	Red Lion Hotel	
38	Nye Ave	Private	South	Vacant Commercial Lot	
39	Nye Ave	Private	South	Vacant Commercial Lot	
40	Nye Ave	Private	North	Sinclair	
41	Nye Ave	Private	North	Sinclair	
42	Nye Ave	Private	North	Shari's	
43	Nye Ave	Private	North	Shari's	
44	Nye Ave	Private	South	Best Western	
45	Nye Ave	Private	South	Best Western	
46	Nye Ave	Private	North	Motel 6	
47	Nye Ave	Private	South	SE 6th St	
48	Nye Ave	Private	North	Super 8	
49	Nye Ave	Private	South	Holiday Inn	
50	Nye Ave	Private	North	Residential Driveway	

NEXT STEPS

Based on the TAC/CAC meeting conducted on June 11, the preferred concept will incorporate elements of Concept #5b and Concept #1. The different elements will be implemented via a phased approach starting with elements of Concept #5b and followed by elements of Concept #1. The preferred alternative will be refined based on comments from the TAC/CAC meeting and from the public virtual open houses and will be presented in Technical Memorandum #6.

REFERENCES

1. Kittelson and Associates, Inc. *Pendleton IAMPs: Methodology Memorandum.* 2019.
2. City of Pendleton. *Transportation System Plan*. 2007
3. Kittelson and Associates, Inc. *Pendleton IAMPs: Exit 210 – Existing Conditions: System Inventory.* 2019.
4. Kittelson and Associates, Inc. *Pendleton IAMPs: Exit 210 – Existing Conditions: System Inventory.* 2019.

ATTACHMENTS

A. Technical Memorandum #5A – Concepts Evaluation and Screening
B. Intersection Operations Worksheets and Signal Warrants
C. Planning Level Cost Estimates
D. Access Locations