



AGENDA

Middle Rogue Metropolitan Planning Organization
Technical Advisory Committee

Date: *Thursday, September 7, 2017*

Time: *1:30 p.m.*

Location: *Courtyard Conference Room, Grants Pass City Hall
101 NW "A" Street, Grants Pass, OR*

Contact: *Stephanie Thune, RVCOG: 541-423-1368
MRMPO website: www.mrmpo.org*

1	Call to Order / Introductions / Review Agenda	John Vial, Chair
2	Review / Approve Minutes	Chair
<i>Attachment</i>	#1 MRMPO TAC Draft Minutes 08/03/17	
Action Items		
3	VMT Benchmarks	Dan Moore
<i>Background</i>	<p>Travel demand model runs performed by Oregon Department of Transportation's (ODOT) Transportation Planning Analysis Unit (TPAU) for the 2015 – 2040 Middle Rogue Metropolitan Planning Organization's (MRMPO) Regional Transportation Plan (RTP) show that the MPO can achieve a 5.45% reduction in vehicle miles traveled (VMT) per capita over the 25-year planning horizon.</p> <p>The MRMPO will provide findings to the Land Conservation and Development Commission (LCDC) demonstrating that the MRMPO's 2015 – 2040 Regional Transportation Plan (RTP) is likely to achieve a five percent (5%) reduction in vehicle miles traveled (VMT) in compliance with the Oregon Transportation Planning Rule (TPR) requirements of Oregon Administrative Rule (OAR) 660-012-0035 (3)(e), (4) and (5).</p>	
<i>Attachments</i>	<p>#2 Demonstration of MRMPO 5% Reduction in VMT per Capita Memo</p> <p>#3 Proposed VMT Benchmarks Memo</p>	
<i>Action Requested</i>	TAC review/comment. Recommendation that the Policy Committee approve memos to be forwarded to LCDC for consideration.	

4	Alternative Route Plan Scope of Work	Dan Moore
<i>Background</i>	During development of the 2015-40 RTP, the MPO TAC requested that the Safety/Security chapter include an alternate route plan as a key traffic management strategy for minimizing the effect of a non-recurring congestion-causing event on traffic flow. The alternate route plan would serve to reduce demand upstream of an event site or bottleneck through the diversion of traffic from the mainline.	
<i>Attachment</i>	#4 Draft Alternative Route Plan Scope of Work	
<i>Action Requested</i>	TAC review/comment. Recommend Policy Committee approve scope of work.	
Discussion Items		
5	Public Comment <i>*Limited to one comment per person, five minute maximum time limit.</i>	Chair
Regular Updates		
6	Updates on Currently Active MRMPO Projects	TAC Members
7	MPO Planning Update	Karl Welzenbach
8	Other Business / Local Business Opportunity for MRMPO member jurisdictions to talk about transportation planning projects.	Chair
9	Adjournment	Chair

- The next MRMPO Technical Advisory Committee (TAC) meeting will be **Thursday, October 5, at 1:30 p.m.** in the Courtyard Conference Room at Grants Pass City Hall.
- The next MRMPO Policy Committee meeting will be **Thursday, September 21, at 2:30 p.m.** in the Courtyard Conference Room at Grants Pass City Hall.

IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT, IF YOU NEED SPECIAL ASSISTANCE TO PARTICIPATE IN THIS MEETING, PLEASE CONTACT STEPHANIE THUNE, 541-423-1368. REASONABLE ADVANCE NOTICE OF THE NEED FOR ACCOMMODATION PRIOR TO THE MEETING (48 HOURS ADVANCE NOTICE IS PREFERABLE) WILL ENABLE US TO MAKE REASONABLE ARRANGEMENTS TO ENSURE ACCESSIBILITY TO THIS MEETING.



Minutes
Middle Rogue MPO Technical Advisory Committee
August 3, 2017

The following attended:

Voting Members	Organization	Phone Number
Chuck DeJanvier	Josephine County	474-5460
Ian Horlacher	ODOT	423-1362
Jason Canady	Grants Pass	450-6110
John Vial, Chair	Jackson County	774-6238
Michael Bollweg	Rogue River	660-0093
Alternate Voters / For	Organization	Phone Number
Tom Schauer for Lora Glover	Grants Pass	450-6072
Staff	Organization	Phone Number
Dan Moore	RVCOG	423-1361
Ryan MacLaren	RVCOG	423-1338
Stephanie Thune	RVCOG	423-1368
Interested Parties	Organization	Phone Number
Lesley Orr	Bike/Ped	707-218-4025

NOTE: In the interest in best utilizing staff time, minutes will now be truncated to show action items/outcomes only. In lieu of detailed minutes, recordings of the meetings will be posted on the MRMPO website. *Firefox is recommended as a browser* as the audio files will not play using Internet Explorer.

The full recording of this meeting can be accessed via this link: [170803 MRMPO TAC Meeting Audio](#)

Alternatively, the specific agenda items can be accessed via the links below.

1. [Call to Order / Introductions / Review Agenda](#) 00:00 – 00:18
2. [Review / Approve Minutes](#) 00:18 – 00:46

Action Items

3. [2015-2040 Regional Transportation Plan \(RTP\) and 2015-2018 Transportation Improvement Program \(TIP\) Amendment](#) 00:46 – 05:44

Ryan MacLaren reported that the MRMPO RTP and TIP need to be amended to remove the following project:

A. Region-wide Rumble Strips (KN 18880)

Description: “*Region-wide rumble strips.*”

02:38 | Chuck DeJanvier moved that the TAC Committee recommend approval of the proposed amendment to the 2015-2040 MRMPO RTP and 2015-2018 MRMPO TIP to the Policy Committee. Ian Horlacher seconded.

04:07 | Chair Vial requested an amendment to the motion stating the TAC’s wish for the Policy Committee to be informed – prior to their vote on the amendment – of 1) the proposed funding/project reassignments due to the removal of the rumble strip project as well as 2) a timeline for when the rumble strip project will be carried out for the southern Oregon MPO highway segments.

04:34 | Chuck DeJanvier moved to amend his prior motion per Chair Vial’s request above. Ian Horlacher seconded.

The amended motion carried unanimously by voice vote.

Discussion Items

4. [STIP Presentation to Stakeholder Groups | 2021-2024 STIP Development Process](#) 05:44 – 17:40
5. [Public Comment](#) 17:40 – 19:09

Regular Updates

6. [Updates on Currently Active MRMPO Projects](#) 19:09 – 19:27
7. [MPO Planning Update](#) 19:27 – 28:51
8. [Other Business / Local Business](#) 28:51 – 28:59
9. [Adjournment](#) 28:59 – 29:00

The Chair adjourned the meeting at 2:00 p.m.

Scheduled Meetings

MRMPO Policy Committee | August 17, 2017 | 2:30 p.m.

MRMPO TAC | September 7, 2017 | 1:30 p.m.



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Regional Transportation Planning

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DATE: August 31, 2017
TO: MRMPO Technical Advisory Committee
FROM: Dan Moore, MPO Coordinator
SUBJECT: Demonstration of MRMPO 5% Reduction in VMT per Capita

Travel demand model runs performed by Oregon Department of Transportation's (ODOT) Transportation Planning Analysis Unit (TPAU) for the 2015 – 2040 Middle Rogue Metropolitan Planning Organization's (MRMPO) Regional Transportation Plan (RTP) show that the MPO can achieve a 5.45% reduction in vehicle miles traveled (VMT) per capita over the 25 year planning horizon.

The purpose of this memo is to provide findings to the Land Conservation and Development Commission (LCDC) demonstrating that the MRMPO's 2015 – 2040 Regional Transportation Plan (RTP) is likely to achieve a five percent (5%) reduction in vehicle miles traveled (VMT) in compliance with the Oregon Transportation Planning Rule (TPR) requirements of Oregon Administrative Rule (OAR) 660-012-0035 (3)(e), (4) and (5).

Background

The TPR (OAR 660-012-0035) requires MPOs to avoid principal reliance on any one mode of transportation by increasing transportation choices to reduce principal reliance on the automobile. This can be accomplished by the MPO adopting a Regional Transportation System Plan (RTSP) that shows a 5% reduction in vehicle miles traveled (VMT) per capita for the RTP planning period.

On November 12, 2015, MRMPO staff sent the Oregon Department of Transportation (ODOT), Transportation Planning Analysis Unit (TPAU) a model run request to determine the VMT per capita for the MRMPO using the recently updated Grants Pass model being used for the 2015-2040 MRMPO RTP. The VMT per capita results would be used to determine whether or not the MRMPO was able to meet the 5% VMT per capita reduction requirement. On December 2, 2015, TPAU responded by memo (Appendix A) with the results of the model run which are shown in Table 1 below.

Table 1 lists both Base Year 2010 and Future Year 2040 RTP Scenario daily VMT and VMT per Capita, as well as the percentage change between the Base Year 2010 and Future Year 2040 Scenario. The VMT per capita reduction is 5.45% between 2010 and 2040. The results of the model run conclude that the Grants Pass model area meets the TPR 5% VMT per capita reduction requirement.

Table 1

Scenario Year	Daily VMT (Miles)	Total Population	VMT per Capita (Miles)	VMT per Capita % Reduction
Base Year 2010	760,271	68,973	11.0	-5.45%
Future Year 2040	925,791	89,004	10.4	

Factors Affecting the Grants Pass 2010-2040 Model VMT/Capita Reduction

Many factors play a role in the travel demand forecasting model. Below is an overview of what factors might affect the Grants Pass 2010-2040 model VMT per capita reduction:

Internal-Internal VMT vs Externally-related VMT

Table 2 – Internal-Internal Daily VMT

Grants Pass Model Average Daily I-I Trip Length = Daily II-VMT / Daily II-Trips (Miles)				
Scenario	Daily II VMT	Daily II Trips	Average Daily II Trip Length (mi)	Daily External Trips
2010 Base Year	760,271	165,315	4.60	49,992
2040 RTP Scenario	925,791	206,902	4.47	77,500
Delta 2010-2040 RTP	165,520	41,587	-0.12	27,508
% Changes 2010-2040 RTP	22%	25%	-3%	55%

Table 2 above shows that the average daily trip length is reduced from 4.60 miles in the 2010 base year to 4.47 miles in the 2040 RTP scenario, which is a 3% reduction. Given that the population is increased in future year 2040 RTP scenario from 2010 base year, an average daily 3% travel length reduction explains why the VMT per Capita is reduced by -5.7% although both VMT and trips would increase by 22% and 25%, respectively. Daily external trip growth rate is 55%, which indicates that over half of the trips generated within the model area are traveling to other destinations outside of the MPO.

Future 2040 Land Use Scenario Focusing on Grants Pass UGB Area

Figures 2, 3, 4 & 5, prepared by TPAU, show that the majority of the MRMPO's 2010-2040 household growth will primarily occur in the vicinity of the Grants Pass central city area while employment growth is also within the city limits or inside the Grants Pass urban growth boundary (UGB). These land use patterns help contribute to reducing VMT per capita.

Figure 1 shows the Grants Pass model area by transportation analysis zone (TAZ) in relation to MRMPO Planning Area boundary.

Figure 1 – Grants Pass Model Area – MRMPO Planning Area Boundary

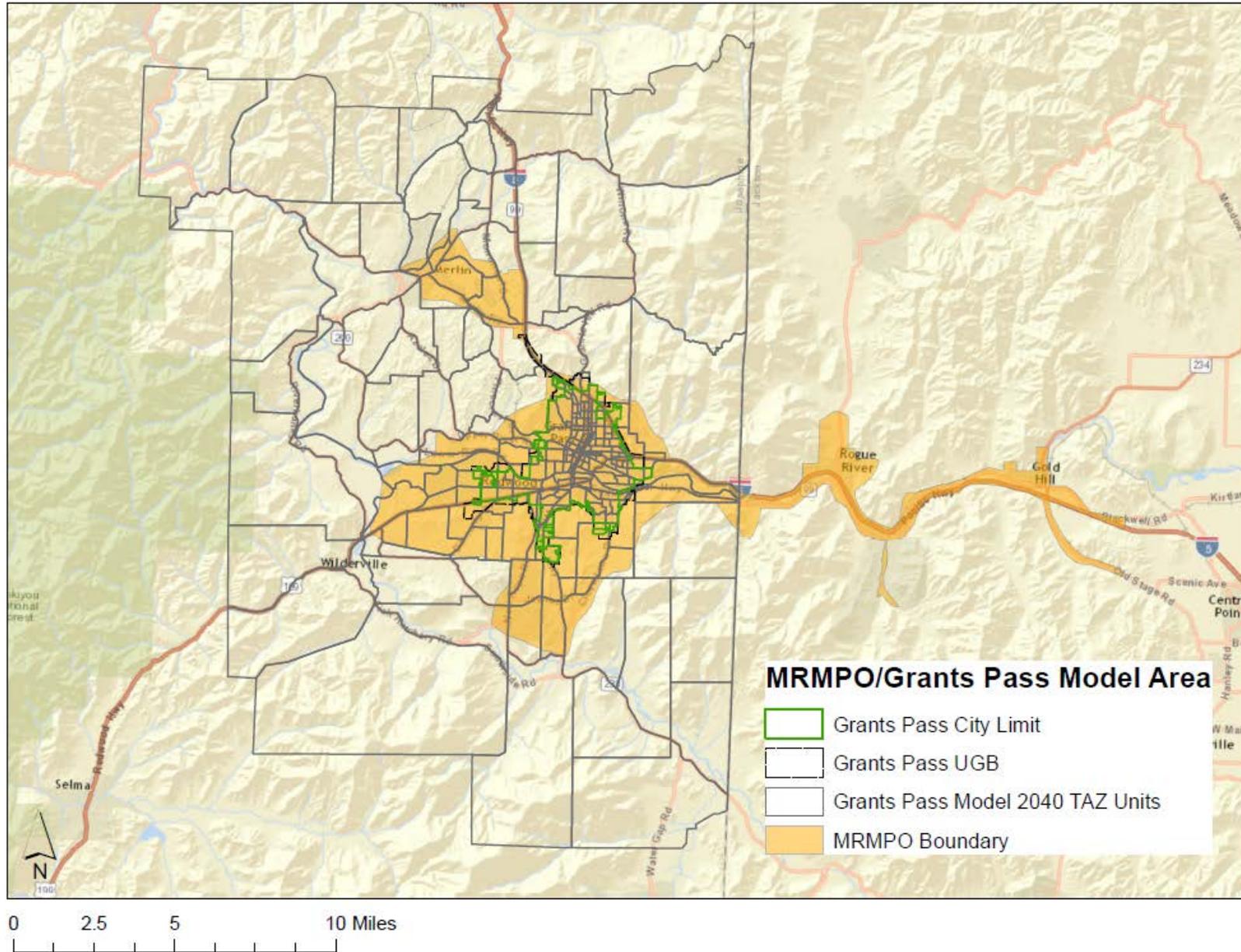


Figure 2

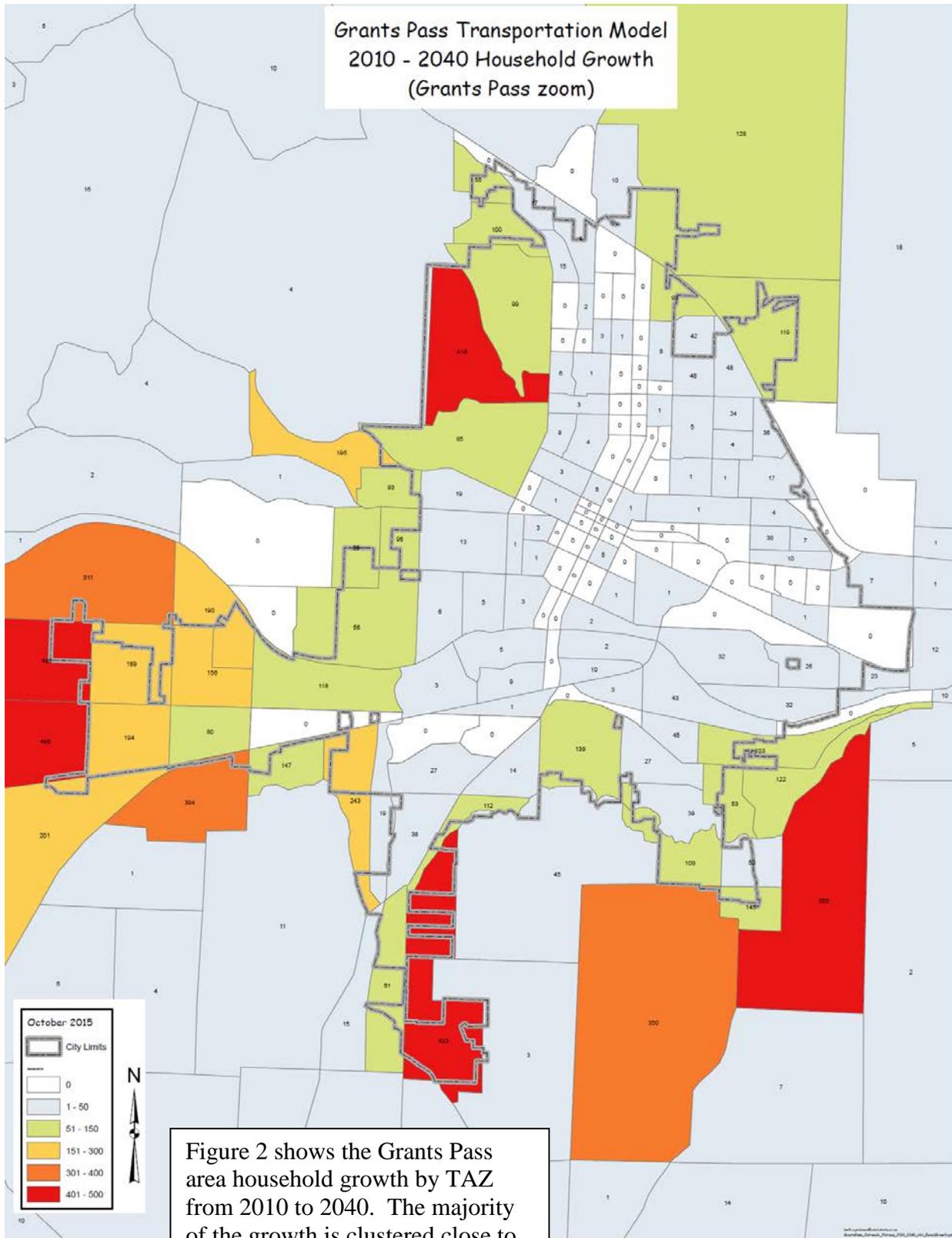


Figure 3

Grants Pass Transportation Model
2010 - 2040 Household Growth

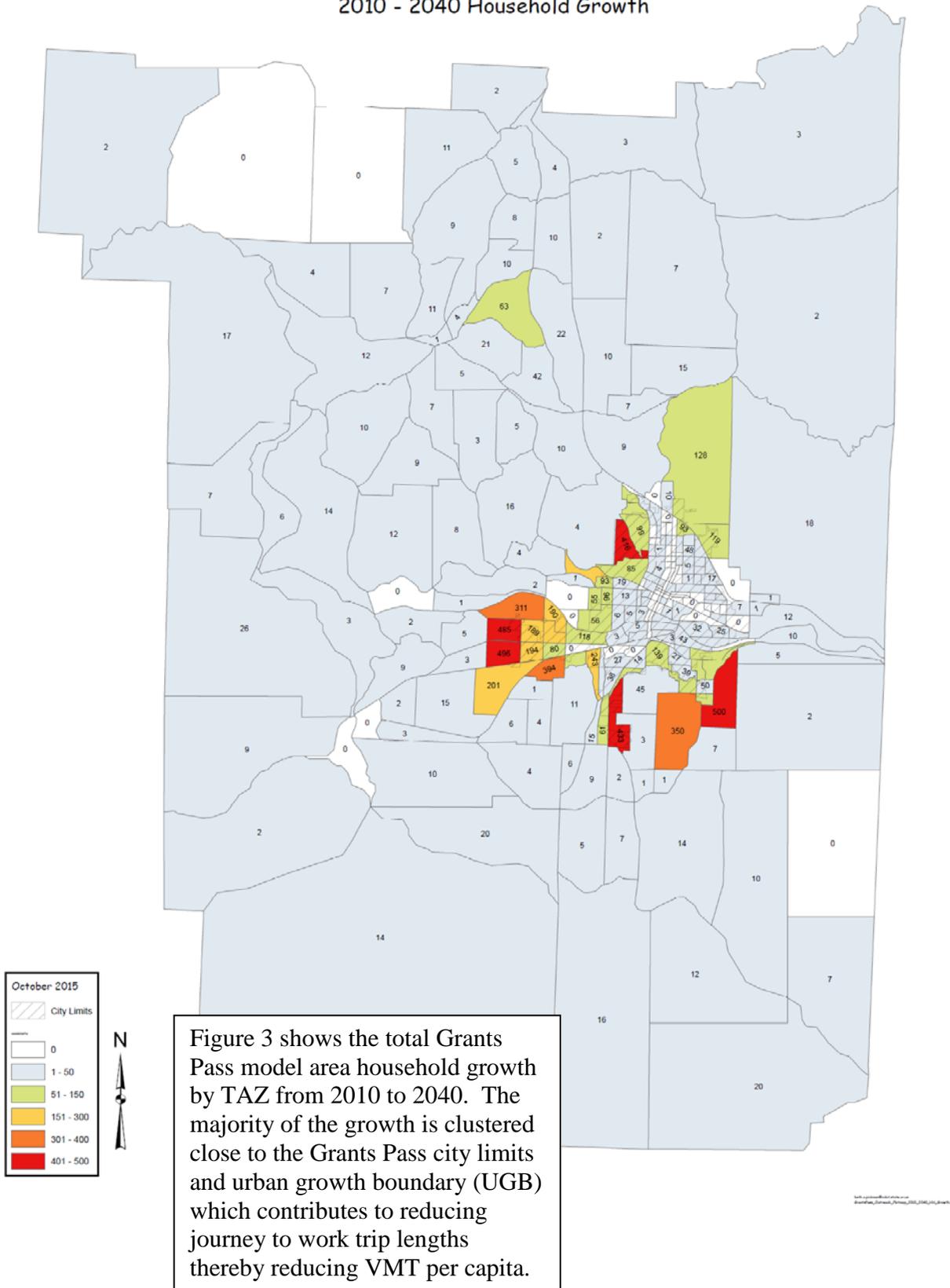


Figure 4

Grants Pass Transportation Model
 2010 - 2040 Employment Growth

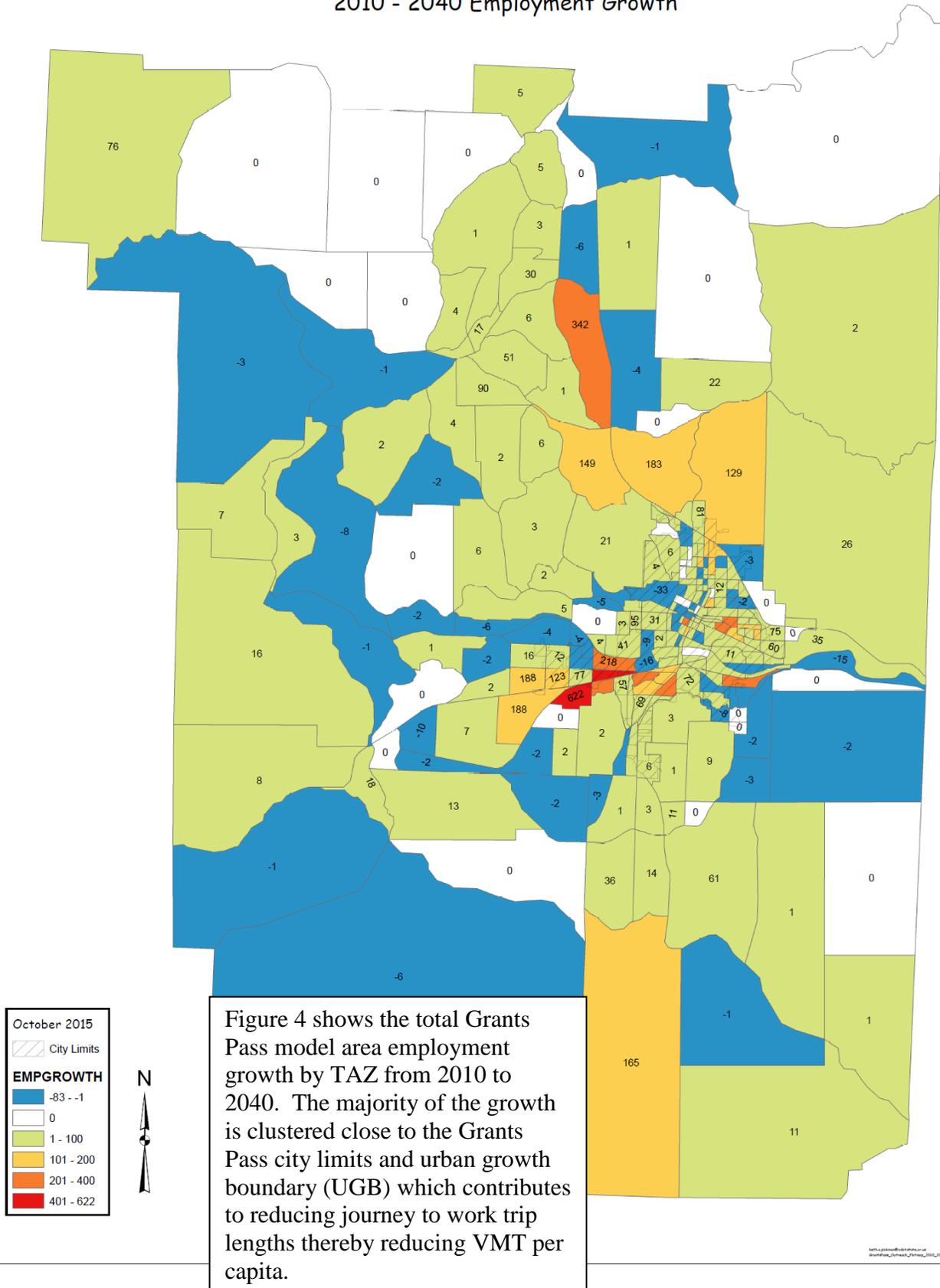
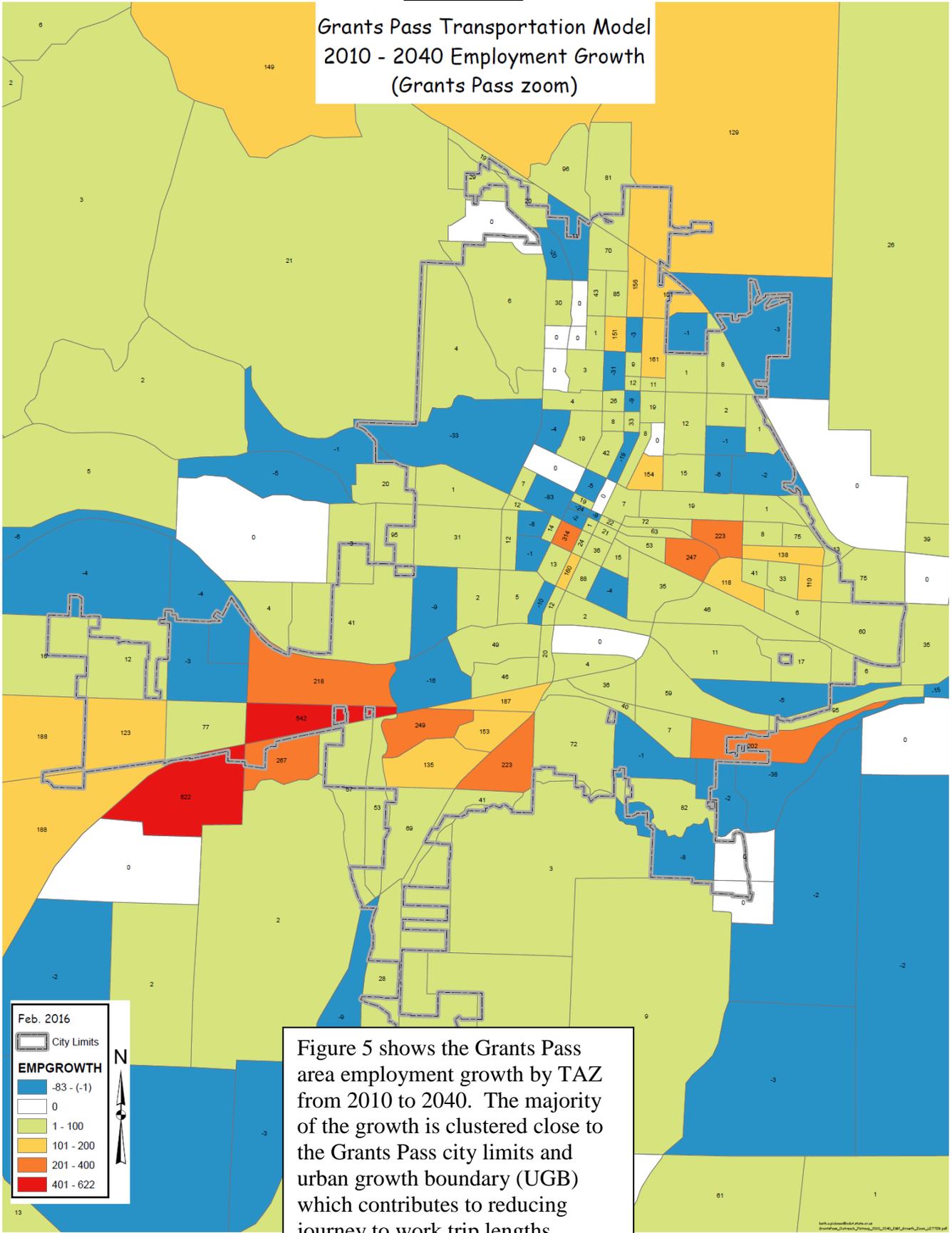


Figure 5

**Grants Pass Transportation Model
2010 - 2040 Employment Growth
(Grants Pass zoom)**



In addition to the TPAU household and employment growth projections shown in Figures 2, 3, 4 & 5, RVCOG conducted a similar analysis using 2010-2040 Grants Pass travel demand model TAZ data.

The original intent of the analysis was to use the Place Types methodology to describe the parts of the MRMPO where population or employment may be located, as well as the corresponding neighborhood character of those locations. Due to map formatting and confidentiality of employment data issues, the only map using Place Type development type symbology is shown on Figures 10 & 11.

Figure 6 depicts residential growth rates for the Grants Pass model area. The greatest increase in residential growth occurs within the Grants Pass urban core area. Lower residential growth rates are in the rural areas as expected.

Figure 7 shows the percent change of employment from 2010 to 2040. Employment increases are close to the city core area and along OR 199.

Figures 8 & 9 depict Place Types Mixed-Use Development Type growth percent increases from 2010 to 2040. The Place Types mixed-use development type includes medium to high densities of residential and commercial uses, and a high diversity of land use mix, with both jobs and housing. This type of development contributes to reducing VMT per capita.

Figures 10 & 11 show the growth from 2010 to 2040 by Place Type Development Types. Table 3 includes a description of each Place Type Development Type. Figure 11 shows the areas of intensifying land uses which are predominately located within the Grants Pass UGB. There are 263 TAZs within the 2010-2040 Grants Pass travel demand model area. The increase in the number of households within the model area between 2010 and 2040 is 8,641. The percentage of household growth within the model area by 2040 Development Type:

1. Employment: 10.9%
2. Mixed High: .06%
3. Mixed: .95%
4. Residential: 71.6%
5. Low Density/Rural: 16.3%

Table 3 - Place Type Development Type Categories
<p>Mixed Use</p> <ul style="list-style-type: none"> • Medium to high densities of residential and commercial uses • High diversity of land use mix, with both jobs and housing • Multimodal transportation network supported by peak period transit service
<p>Employment</p> <ul style="list-style-type: none"> • Land use is dominated by commercial or industrial activities • Low diversity of land uses • Jobs/Housing balance: mostly jobs • Missing either the density or street design required of mixed use
<p>Residential</p> <ul style="list-style-type: none"> • Land use is dominated by housing • Low diversity of land uses • Jobs/Housing balance: mostly housing • Missing either the density or street design required of mixed use
<p>Rural/ Low Density</p> <ul style="list-style-type: none"> • Very low densities of housing and jobs • Very low accessibility to jobs and services • Generally outside of UGB, or undeveloped areas within UGB • Auto dependent transportation, due to low activity

Overall, both the TPAU and RVCOG Grants Pass model TAZ analyses depicted in Figures 2 through 11 shows that future residential and employment growth is chiefly concentrated in the City of Grants Pass city limits and UGB, which supports the modeling analysis conducted by TPAU that resulted in a 5.45% reduction in VMT per capita for the 2015-2040 MRMPO RTP.

Figure 6

Residential Growth Rate 2010,2040: Residential and Low Density Rural Development

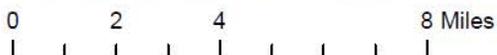
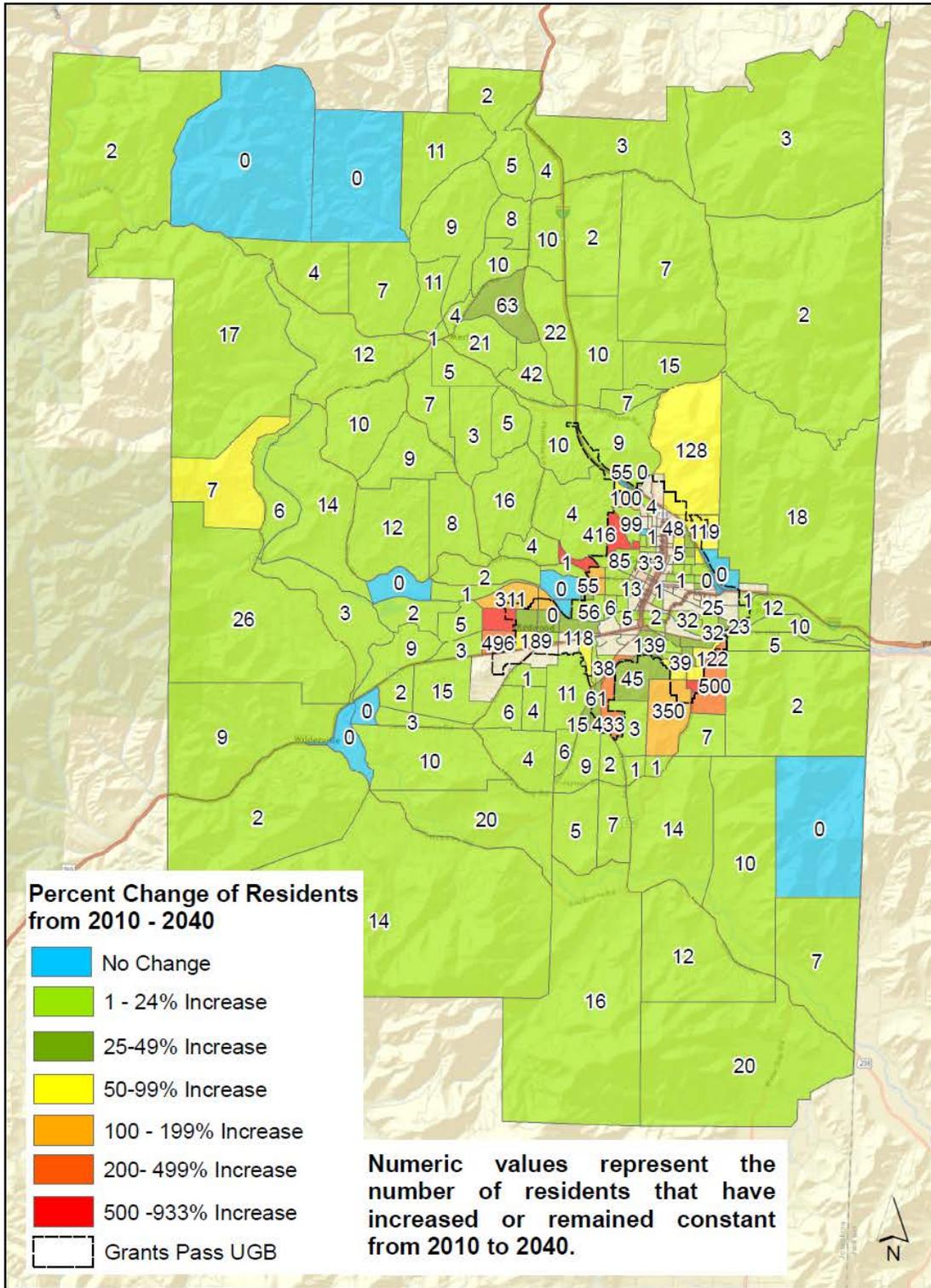


Figure 7

Employment Growth Rate 2010,2040: Employment Development

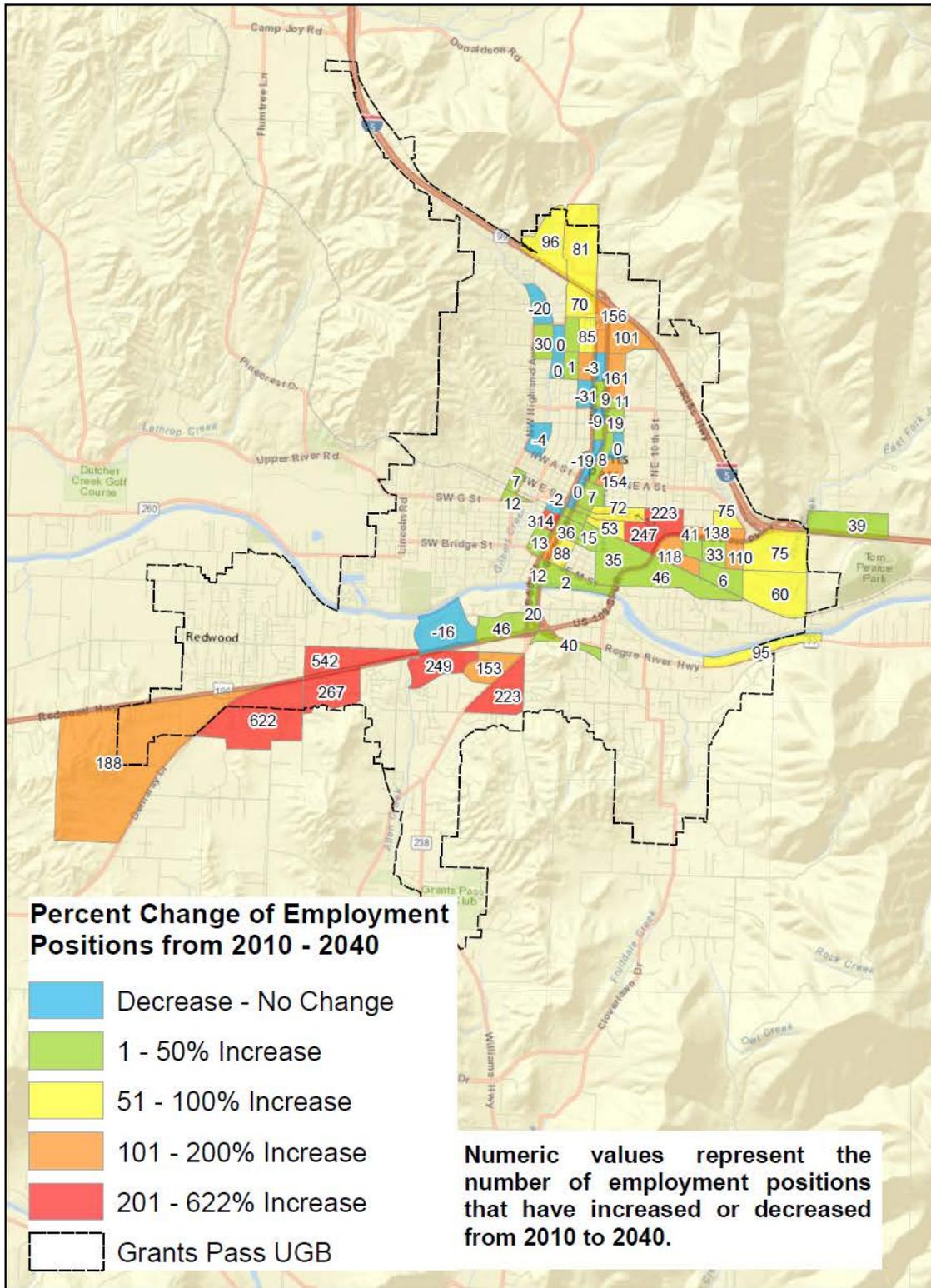


Figure 8

Residential Growth Rate 2010,2040: Mixed Use Development

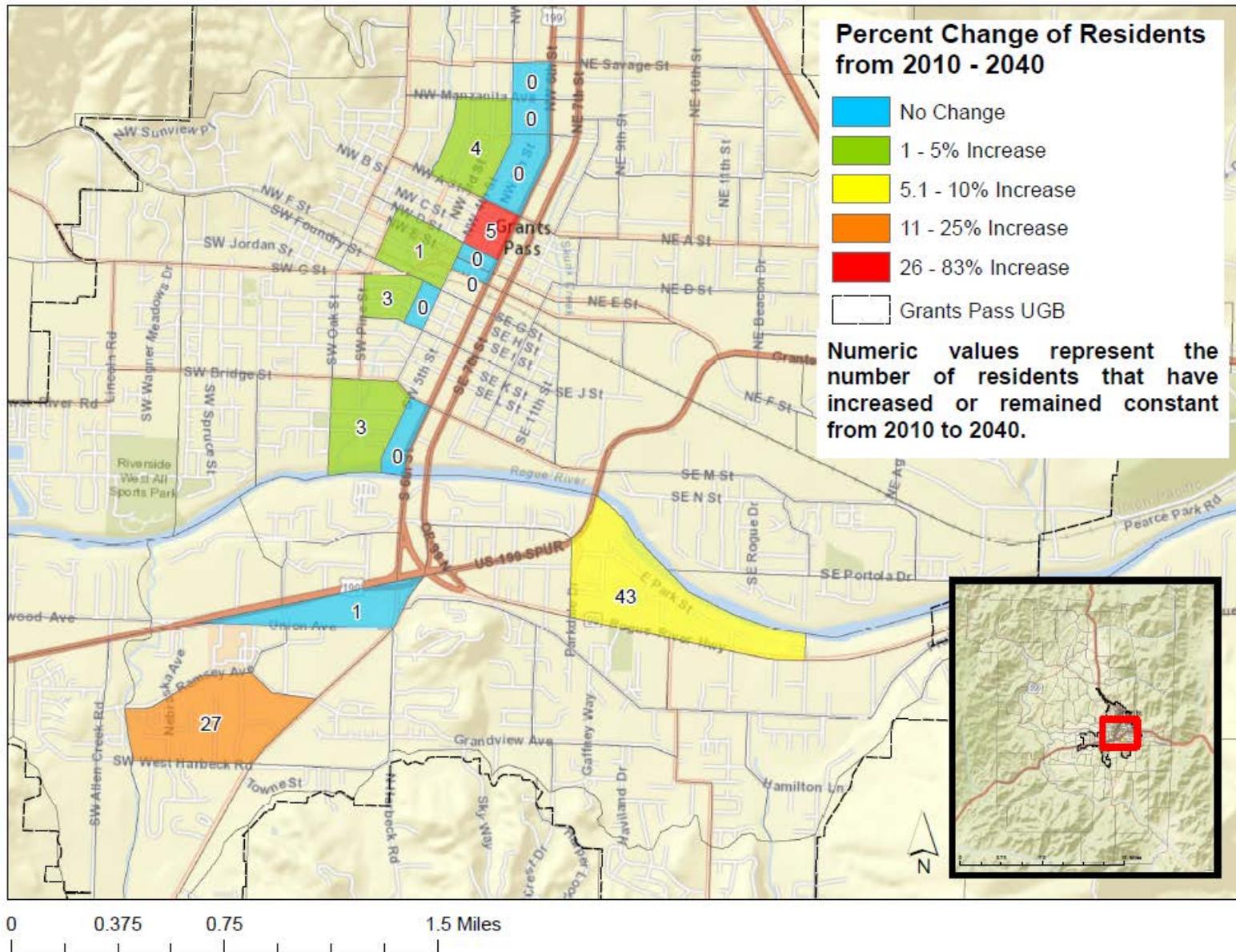
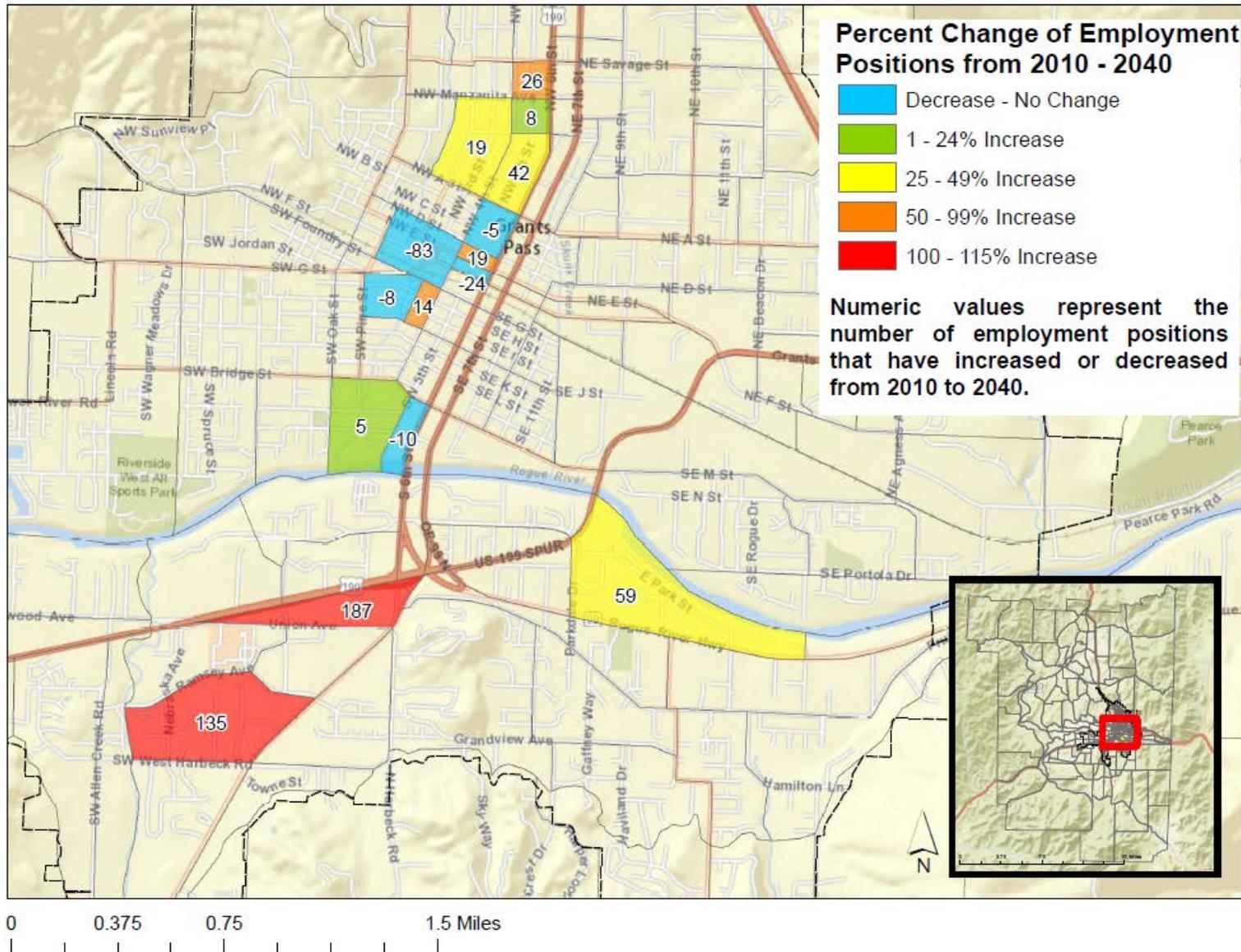
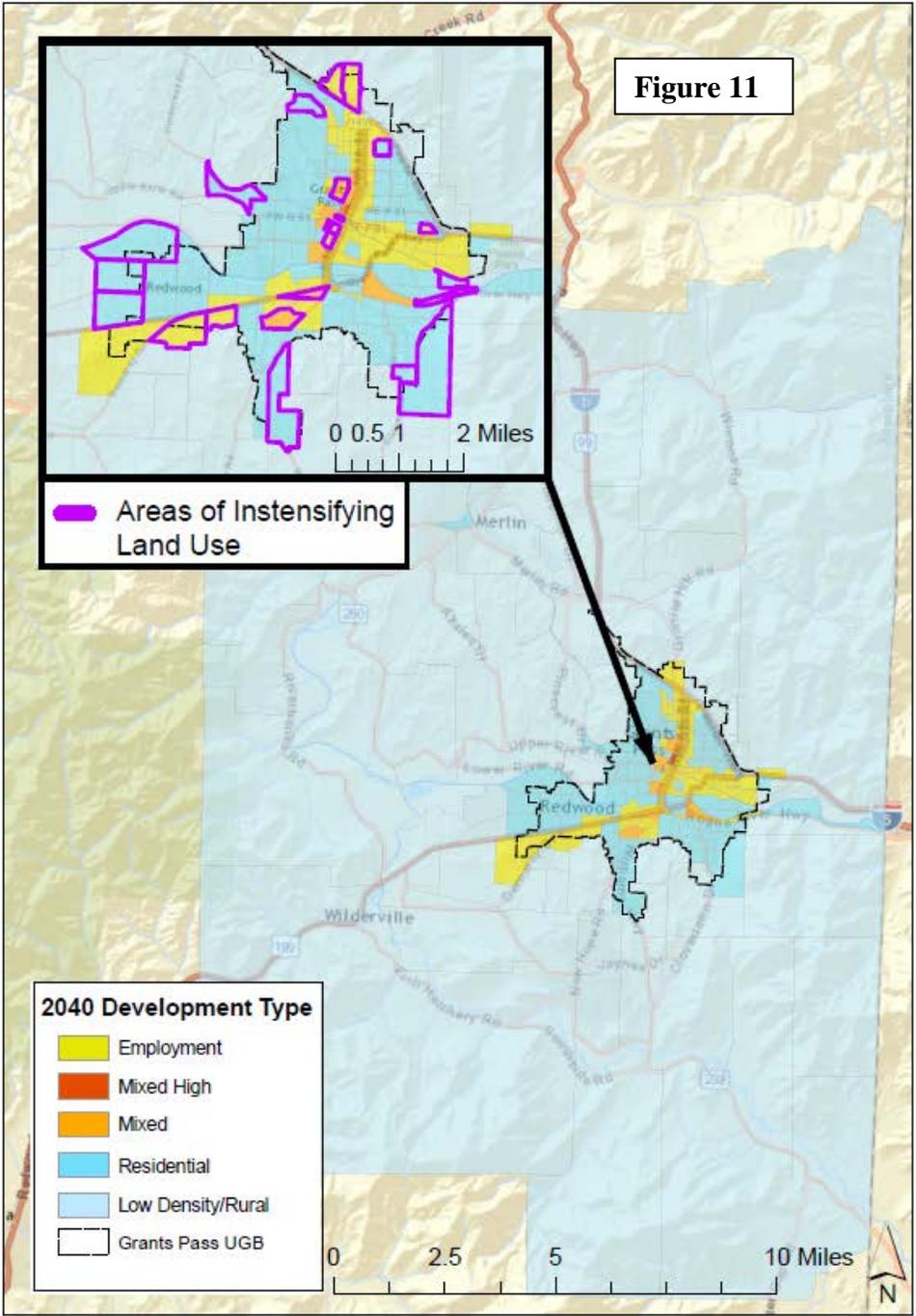
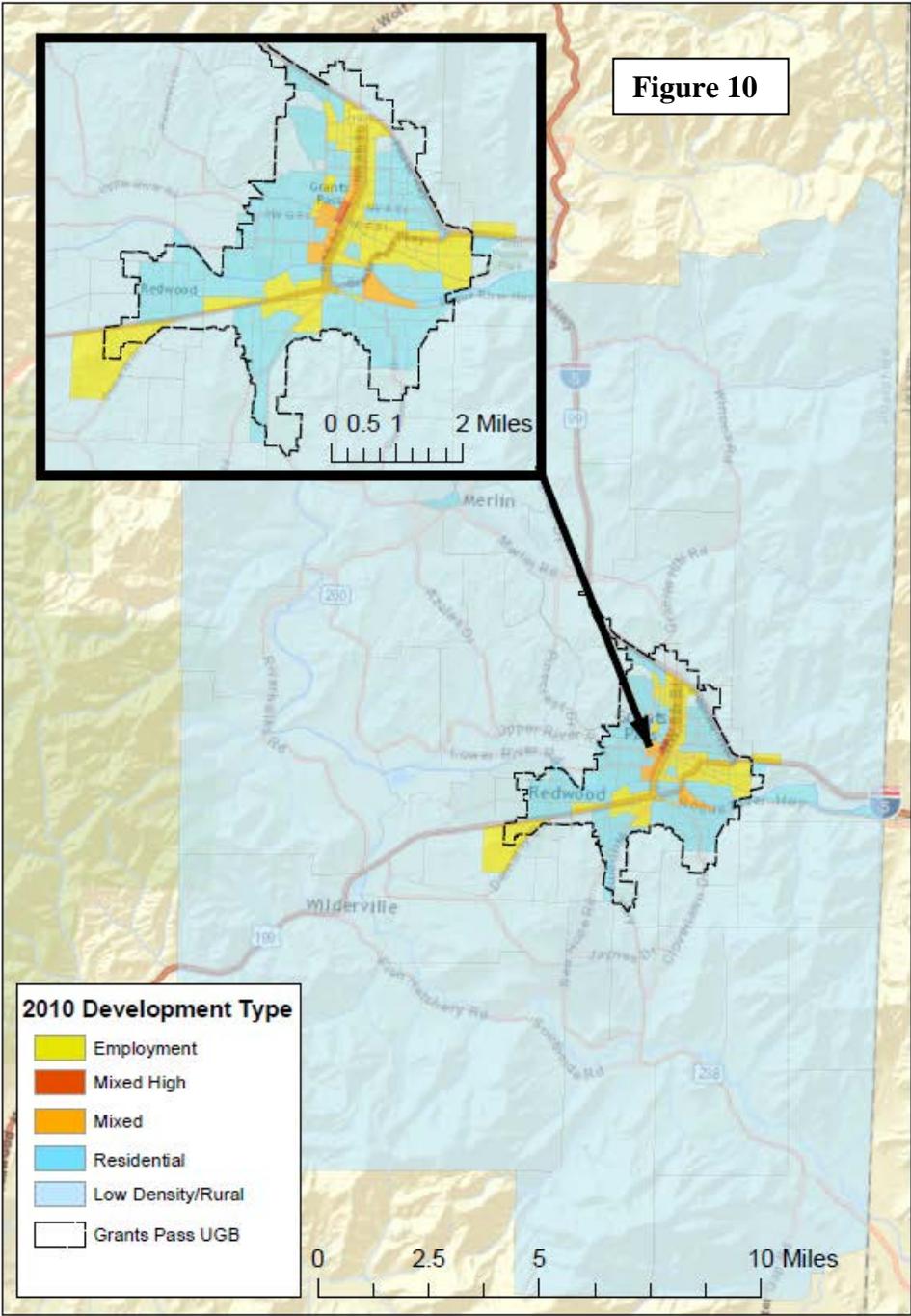


Figure 9

Employment Growth Rate 2010,2040: Mixed Use Development







Oregon

Kate Brown, Governor

Department of Transportation
Transportation Development Division
Transportation Planning Analysis Unit (TPAU)
Mill Creek Office Park
555 13th Street NE Suite 2
Salem, Oregon, 97301-4178
Phone: (503) 986-4120
Fax: (503) 986-4174

Date: December 2, 2015

To: Dan Moore, RVMPO Planning Program Manager

From: Jin Ren, P.E., Senior Transportation Modeler/Analyst
ODOT Transportation Planning Analysis Unit (TPAU)

Cc: Brian Dunn, P.E., Transportation Planning Analysis Manager, ODOT TPAU
Peter Schuytema, P.E., Senior Transportation Engineer, ODOT TPAU
Ian Horlacher, MPO Senior Planner, ODOT Regional 3, District 8

**RE: VMT Per Capita for the Grants Pass Model Area
– Base Year 2010 and Future Year 2040 RTP Scenario Grants Pass Travel Demand Models**

Brief Description

A model request was submitted by RVMPO to utilize the Grants Pass Travel Demand Models¹ to output Base Year 2010 and Future Year 2040 RTP scenario daily vehicle miles traveled (VMT) per capita. The model data will be used to determine whether the Middle Rogue MPO meets the Oregon Transportation Planning Rule (TPR) 5% VMT per capita reduction requirement.

Land Use & Network Assumptions

The decision was made to use the Grants Pass OSUM (Oregon Small Urban Models) models for Base Year 2010 and Future Year 2040 RTP (Regional Transportation Plan) scenario.

The Base Year 2010 GP Model is based on the 2010 census block household data and the 2010 employment data from the Oregon employment department. The based model is well calibrated by the 2010 Oregon Household Activity Survey (OHAS) data and is validated against the base traffic counts.

The Grants Pass 2040 future year RTP Scenario OSUM model was based on the 2040 local jurisdictional population and employment forecasts by referring to the Portland State University population forecasts and Oregon State economic analysis and forecasts. The RTP roadway capacity improvement projects are built in the 2040 future year RTP Scenario model network.

¹ Note that travel models provide only generalized travel forecasts because they are based on generalized land use patterns and transportation networks. Since models do not represent individual land uses, driveways or neighborhood-scale streets, the forecasts produced are not sensitive to these specific land use and transportation characteristics.

It is inappropriate to use raw model outputs as the basis for transportation and land use decisions that require consideration of detailed transportation and land use characteristics. Therefore, post-processing of model outputs to account for the influence of specific transportation and land use characteristics is mandatory. Methods used for post-processing must conform to specifications provided within the ODOT Analysis Procedures Manual (<http://www.oregon.gov/ODOT/TD/TP/pages/APM.aspx>).

Modeling Methods and Assumptions

The daily multi-class vehicle trip assignment procedure can separate the internal-internal and externally-related vehicle trips on the model network so that the daily internal-internal VMT can be summarized, and the daily VMT per Capita can be figured out by dividing the daily VMT by the total population in the Grants Pass model area (as shown in Figure 1 below).

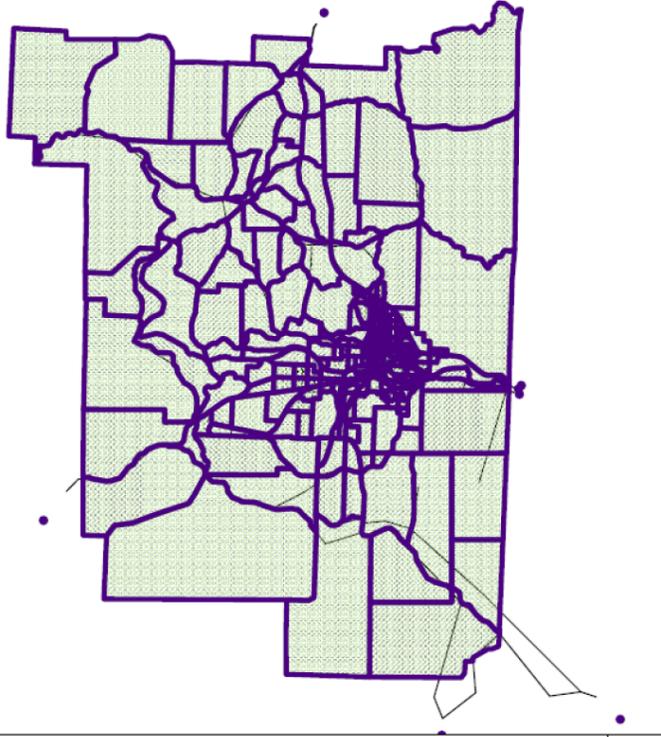


Figure 1: Grants Pass model area with Traffic Analysis Zones (TAZ) and model network.

Requested Output

Table 1 lists both Base Year 2010 and Future Year 2040 RTP Scenario daily VMT and VMT per Capita, as well as their percentage changes between Base Year 2010 and Future Year 2040 Scenario.

Scenario Year	Daily VMT (Miles)	Total Population	VMT Per Capita (Miles)	VMT Per Capita % Reduction
Base Year 2010	760,271	68,973	11.0	$(10.4-11.0)/11.0 =$
Future Year 2040	925,791	89,004	10.4	-5.6%

In conclusion, the Grants Pass model area meets the Oregon Transportation Planning Rule 5% VMT per capita reduction requirement.

Please feel free to contact Jin Ren at 503-986-4120 Jinxiang.ren@odot.state.or.us if you have any questions or comments.



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DATE: August 31, 2017
TO: MRMPO Technical Advisory Committee
FROM: Dan Moore, MPO Coordinator
SUBJECT: Proposed VMT Benchmarks

Travel demand model runs performed by Oregon Department of Transportation's (ODOT) Transportation Planning Analysis Unit (TPAU) for the 2015 – 2040 Middle Rogue Metropolitan Planning Organization's (MRMPO) Regional Transportation Plan (RTP) show that the MRMPO can achieve a 5.45% reduction in vehicle miles traveled (VMT) per capita over the 25 year planning period. The results of the VMT per capita analysis performed by TPAU and the Rogue Valley Council of Governments (RVCOG) are documented in, the Demonstration of MRMPO 5% Reduction in VMT per Capita memo, dated August 31, 2017.

The purpose of this memo is to present proposed VMT benchmarks to the Land Conservation and Development Commission (LCDC) in compliance with the Oregon Transportation Planning Rule (TPR) requirements of Oregon Administrative Rule (OAR) 660-012-0035 (3)(e), (4) and (5). The memo also includes proposed methodologies to evaluate progress towards meeting the 2040 VMT per capita reduction target of -5.45%.

The MRMPO utilized data from the travel demand model to set the VMT benchmarks. The benchmarks are represented as percentages. This matches well with the VMT per capita requirement which is also percentage based.

VMT Benchmarks

MRMPO proposes interim benchmarks for reducing vehicle miles travelled (VMT) based on the incremental annual growth method depicted in Table 1 that calculates the VMT per capita reduction targets for future RTP update years¹ using base year 2010 and future year 2040 population and daily VMT data from the Grants Pass travel demand model. This method is a linear interpolation of VMT per capita that shows a reduction of:

- -1.80% by 2019
- -2.60% by 2023
- -3.34% by 2027
- -4.03% by 2031
- -4.68% by 2035
- -5.44% by 2040.

¹ The RTP is updated every 4 years.

Table 1 – MRMPO VMT Benchmarks

Scenario Year	Daily VMT Miles	Total Population	VMT Per Capita (Miles)	VMT Per Capita % Reduction				
Base Year 2010	760,271	68,973	11.0	-5.45%				
Future Year 2040	925,791	89,004	10.4					
Increase in Daily VMT Miles	165,520	20,031						
% increase in VMT Miles 2010 to 2040	21.8%	29.0%						
Per Year % Incremental Increase	0.73%	0.97%						
Per Year % Compounding Increase	0.7%	0.9%						
ANNUAL INCREMENTAL GROWTH METHOD	RTP Update Years	2019	2023	2027	2031	2035	2040	Sum
	% increase in VMT Miles 2010 to 2040	6.5%	2.9%	2.9%	2.9%	2.9%	3.6%	22%
	Daily VMT Increases	49,656	22,069	22,069	22,069	22,069	27,587	165,520
	% increase in Pops 2010 to 2040	9%	4%	4%	4%	4%	5%	29%
	Pop Increases	6,009	2,671	2,671	2,671	2,671	3,339	20,031
	VMT Per Capita	10.80	10.71	10.63	10.56	10.49	10.40	10.40
	% Changes from 2010	-1.80%	-2.60%	-3.34%	-4.03%	-4.68%	-5.44%	-5.44%

VMT Benchmark Monitoring

The MRMPO proposes to monitor progress on the VMT benchmarks by using the travel demand model and evaluating of RTP goals and policies. Sections 1 & 2 below describe the monitoring methodologies.

1. Travel Demand Model

The MRMPO will be updating the 2020 – 2045 RTP beginning in FY2019. TPAU is currently developing an activity based model (ABM) for Southern Oregon. The model will include both the MRMPO and the Rogue Valley Metropolitan Planning Organization (RVMPO) planning areas. The ABM model will be used to measure progress in meeting the VMT benchmarks. The new ABM model will have a 2010 base year and include the entire MRMPO planning area.

- a. The model will be updated with new population and employment data.
- b. A model run will be conducted to estimate the % changes in VMT per capita from 2010 to the benchmark year being analyzed (i.e., 2019, 2023, 2027, 2031, 2035, & 2040).
- c. The model results will be compared to the VMT benchmark for the year being analyzed. If the % reduction in VMT per capita is not achieved, the MPO will test VMT reduction scenarios (revised population and employment TAZ data, increased transit, transportation options (TO), etc.).
- d. Results of the test scenarios will be presented to the MRMPO Technical Advisory Committee for review and recommendations to the Policy Committee on possible actions.

2. RTP Performance Measures Evaluation

The MPO will evaluate specific RTP goals and policies relevant to reducing VMT per capita. Performance measures for each of the goals and policies identified will be used to conduct the evaluation. The specific MRMPO RTP goals, polices and performance measures proposed to be evaluated for each benchmark year are listed below.

GOAL 4: *Develop and implement policies and plans to protect, preserve, and enhance the social, historical, and natural environments of the region.*

Policies

- | | |
|---------|---|
| G4 – P3 | Analyze and implement transportation investments which will help reduce greenhouse gases, and other emissions, and support the reduction of single occupancy vehicle trips. |
| G4 - S2 | Promote street and pathway connectivity, including off-road corridors for non-motorized vehicles. |

Performance Measures:

- | | |
|----------|---|
| G4 - PM1 | Change in mixed-use and downtown development. |
|----------|---|

G4 - PM3 Expansion of off-network paths. Improve air quality through projects that reduce carbon monoxide (CO), particulates (PM10) and greenhouse gases.

GOAL 5: *Identify, develop and implement the best available technology for the MRMPO to utilize for maximize system effectiveness.*

Policies:

G5 - P1 Develop and implement the use of Transportation Demand Management (TDM) principles to mitigate capacity deficiencies on congested roadways and intersections.

G5 - S3 Identify future Park & Ride locations.

Performance Measures:

G5 – PM3 Track the number of newly identified Park & Ride locations.

GOAL 6: *Improve and enhance integration and connectivity of the transportation system across and between modes.*

Policies:

G6 - P1 Develop and integrate land use and transportation project planning for new development and redevelopment.

G6 - P2 Identify and develop projects for existing transportation facilities to retrofit, where possible, and to accommodate pedestrians, bicyclists, and transit users to enhance connectivity between modes.

G6 – S2 Inventory the existing sidewalk system and identify areas where new sidewalks and sidewalk ramp improvements are needed within the MRMPO.

Performance Measures:

G6 - PM1 Percent of regional corridors that have facilities for at least three modes (e.g.: pedestrians, transit or motor vehicles, and bicyclists).

G6 - PM2 Measure the increase in intermodal activity.

G6 - PM3 Number of new mixed use development which include residential dwelling units.



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MRMPO ALTERNATIVE ROUTE PLAN

WORKSCOPE

AUGUST 31, 2017

Background

During development of the 2015-40 RTP, the MPO TAC requested that the Safety/Security chapter include an alternate route plan as a key traffic management strategy for minimizing the effect of a non-recurring congestion-causing event on traffic flow. The alternate route plan would serve to reduce demand upstream of an event site or bottleneck through the diversion of traffic from the mainline. The location and time of such events may be known in advance, or the event may happen at random with very little or no warning. These events are commonly termed planned and unplanned events, respectively. Congestion-causing events, whether *planned* or *unplanned*, result in a reduction in roadway capacity and/or an increase in traffic demand.

The development of alternate route plans has become an increasingly important component of traffic incident and emergency management programs nationwide. Agencies acknowledge a need to develop alternate route plans for the following reasons:

1. As a result of the high occurrence of serious traffic incidents such as crashes and cargo spills,
2. As a result of a major catastrophe that closed a roadway section, and
3. To be prepared for any future event.

Alternate route plan development typically involves a transportation agency assuming a lead role with support and/or plan review solicited from affected stakeholders, such as public safety agencies, and area residents. Specifications contained in the end product must meet Federal and State standards, as applicable, for the maintenance and protection of traffic. It must also provide guidance to response personnel on when and how to deploy an alternate route and notify affected motorists.

Alternate route plans can address the following issues:

- Contingency planning for future traffic incidents at locations with a high occurrence of crashes.
- Major catastrophes closing a key component of a region's highway infrastructure (e.g., high-capacity bridge, freeway-to-freeway ramp, etc.). Major catastrophes include a flood, snowstorm, earthquake, bridge collapse, act of violence, or other non-traffic incident.
- Planned construction and maintenance activities.
- Future planned special events.

Benefits of alternate route plan implementation include decreases in:

- Secondary incidents
- Vehicle fuel consumption
- Vehicle emissions
- Response time to traffic incidents and other emergencies
- Motorist stress levels

- Aggressive driving behavior
- Impact on the movement of freight in the region
- Impact on the regional economy

General Description of Project Area

The project area is the MRMPO Planning Area (see map).

Timeline

See Appendix A

Project Objectives

- Develop an alternate route plan for the MRMPO as an important component of a regional traffic incident and emergency management program.
- Ultimately, beyond having an alternate route plan for the MRMPO, is the idea of creating the process for developing an alternative route plan that could then be utilized in the RVMPO.

The alternate route planning process involves the following three phases:

- *Alternate Route Selection:* Choosing candidate alternate routes and evaluating each route to determine the optimal alternate route choice.
- *Alternate Route Plan Development:* Developing information to include in the alternate route plan, including information on alternate route implementation.
- *Traffic Management Planning:* Planning for information to be disseminated to motorists during implementation and for traffic control, including capacity enhancements needed to accommodate traffic to/from and on the alternate route.

Note: The following work program is based on the information provided in FHWA's *Alternative Route Handbook*. The MRMPO will use the handbook (and other resources) as a reference guide throughout the planning process.

PROJECT WORKSCOPE

Phase 1A – Scope of Work, Agency Interviews, Objectives & Key Stakeholders

Task 1: MRMPO Technical Advisory Committee (TAC) and Policy Committee Review/Approval of Alternative Route Plan Scope of Work.

1.1 TAC and Policy Committee Review/Approval of Scope of Work

MPO staff will prepare a scope of work (SOW) that outlines the tasks to complete the alternative route plan based on FHWA's Alternative Route Handbook. Staff will present the work plan to the MRMPO TAC for review and comment. Staff will make changes based on the TAC's recommendations. The revised SOW will be presented to the Policy Committee for final approval.

Deliverables

- 1A Draft Alternative Route Plan SOW
- 1B Revised SOW based on TAC's comments
- 1C Final SOW based on Policy Committee's review and approval

Task 2: Agency Interviews

2.1 Conduct Transportation Agency Interviews

MPO staff will schedule and conduct interviews with local transportation agencies to identify existing plans and processes that are currently in place to address roadway closures in the MRMPO area. The interviews will include ODOT District 8, ODOT Emergency Management, Oregon State Police (OSP), Grants Pass (Public Works, Police, Fire), and Josephine County (Public Works, Sheriff, Fire). The Alternative Route Plan will build on existing road closure plans and processes.

Deliverables

- 2A Existing road closure plans and processes report.

Task 3: Determine Objectives

The next step in the alternate route selection process (before identifying stakeholders) is determining performance and community-based objectives to guide planning activities and the alternate route selection process. The MRMPO TAC, with Policy Committee approval, will develop objectives for the alternate route plan. Considerations include:

- *Alternative Route to I-5*
 - The focus of the Alternative Route Plan will be road closures occurring on the section of I-5 within the MRMPO Planning Area.
 - Alternative routes under consideration will include OR99, Highland Drive, OR199 and OR238.
- *Geographical area*
 - What geographical area should the alternate route plan cover?
 - The MPO area or wider?
- *Frequency of alternate route implementation*

- Will it be used only in the case of a complete closure of I-5 for a prolonged period?¹
- Will it be used whenever a lane closure occurs on I-5 during specific days and times?

3.1 Determine Objectives

MPO staff will facilitate a meeting with the TAC to determine the project objectives for the alternative route plan such as; the potential alternative routes, geographic area and frequency of route implementation. MPO staff will prepare a large-scale map of the MRMPO area transportation system, and matrix of potential project objectives. The TAC, using the transportation system map for reference, will review the project objectives matrix and select the preferred project objectives.

Deliverables

- 3A Project objectives matrix
- 3B MRMPO transportation system map (large-scale)
- 3C TAC recommendation to Policy Committee of project objectives
- 3D Policy Committee approval of project objectives

Task 4: Identification of Local Agency Representatives and Key Stakeholders

Following the determination of the project objectives, the MRMPO TAC will identify which stakeholders will be involved. The project objectives will drive the identification of and motivation for stakeholders to become involved in the alternate route planning process.

4.1 Stakeholder Advisory Committee

The project objectives will help to identify the types of routes such as; state highways, local arterials, or county roads for detouring traffic. Local stakeholders representing these areas will be invited to participate in the planning process to confirm or provide feedback on the suggested routes. The stakeholders will meet and review the preliminary routes vetted by the TAC and provide comments and/or suggestions. For any routes utilizing local roads, additional coordination will be pursued with the specific stakeholders.

Potential stakeholders include:

- Local Government Representatives
- Oregon Department of Transportation (ODOT Region Traffic, District 8 Operations/Maintenance)
- Oregon State Police (OSP)
- Josephine County Public Works/Sheriff's Dept.
- Jackson County Public Works/Sheriff's Dept.
- Grants Pass Public Works/Police/Fire
- Rogue River Public Works/Police
- Gold Hill Public Works
- Fire Districts
- Josephine Community Transit
- Emergency medical service
- Individuals and community groups
- Tourism
- Media

¹ Travel demand models will best represent this scenario as traffic patterns are relatively stable. The analysis may not represent short-term closures well as drivers could shift trips times, skip trips etc. The longer the closure, the better than the model scenario will be representative.

Deliverables

4A Project Stakeholder list

Phase 1B – Select Preferred Alternative Route

Task 5: Establish Criteria & Preliminary Alternative Route Map

Task 5 involves establishing criteria governing selection of preliminary alternate routes. The purpose of an alternate route plan is to reduce demand upstream of an event site or bottleneck through the diversion of traffic from the mainline. Examples of criteria include; the acceptable travel time and proximity of the alternate route to the route from which traffic will be diverted.

5.1 Alternate Route Selection Criteria

Compatibility with existing local and statewide plans, policies, and procedures will be examined before developing the emergency alternate route selection criteria. Examples of criteria include:

- **Geometrics of the Alternate Route**
The alternative route must be able to accommodate all vehicle types. Commercial vehicle restrictions and limited available turning radii that cannot accommodate certain vehicles must be identified. If these restrictions arise, the alternate route plan must make accommodations for vehicles that cannot use the alternate route.
- **Proximity of Alternate Route**
The alternative route must be reasonably close to the primary route in order to be useful. If the alternate route is too far from the primary route, motorists who are unfamiliar with the area may not be comfortable navigating the alternate route. In rural areas, it may be necessary for the alternate route to be farther away from the primary route, since close parallel roads may not be available.
- **Sufficient Capacity**
As a consideration, the alternative route should be able to accommodate the traffic that is diverted. For example, if traffic is diverted from I-5, a one-lane local street may not have adequate capacity to serve as an alternate route.

5.2 Data Collection & Analysis

Following the establishment of alternate route selection criteria, the TAC and stakeholders will meet and index available data on potential alternate routes such as; type of facility, number of lanes, speed limit, traffic controls, etc. This data, along with the alternate route selection criteria, will allow the TAC and stakeholders to identify preliminary alternate routes that warrant further consideration.

5.3 Identify Preliminary Alternative Routes

Utilizing the alternative route selection criteria, the TAC and stakeholders will identify potential alternative routes for analysis. MPO staff will outline preliminary routes for the corridor segments. These routes will set a baseline for the future development and analysis of the alternate routes for the project corridor.

5.4 Demand/Capacity Analysis on Preliminary Alternative Routes

ODOT's Transportation Planning Analysis Unit (TPAU) will be asked to provide demand/capacity ratios (model data) to determine impacts of re-routing traffic from the current Grants Pass travel demand model. MPO staff will identify the specific closed roadway segments that the individual model scenarios (one per roadway closure) will be based on. The model data will:

- Estimate how the highway closure affects operations after accounting for changes in travel demand.
- Identify the alternate routes that best meet the selection criteria, including the routes with the shortest travel distance, the shortest (relative²) time, or the highest capacity³.
- Identify alternate routes that will have the minimum impact on emergency response services. The location of emergency services will be identified on the network by MPO staff, and shortest path travel time runs using the assignment module could determine the potential relative change in response times to the community service area.

5.5 Develop Preliminary Alternative Route Map

Based on the list of preliminary alternative routes identified by the TAC and stakeholders, MPO staff will develop a map depicting the preliminary routes for the corridor segments.

Deliverables

- 5A Alternative route selection criteria
- 5B Index of data on potential alternative routes
- 5C TPAU model runs on preliminary alternative routes
- 5D Table of preliminary alternative routes w/data
- 5E Map of preliminary alternative routes

Task 6: Field Data Collection – Site Visits

Once the preliminary routes are identified, the roadway characteristics needed to handle freeway-type traffic volumes need to be examined. MPO staff will conduct a field survey of the routes to narrow the selection down further. During the field review, the routes and some of their key features (e.g., lane widths, pavement quality, shoulder width, etc.) will be documented and logged. Maps of each segment will be used to record notes and roadway characteristics. This information will be useful to help confirm the final emergency alternate routes selected. Existing signing will also be verified at this time for use in the development of the signing plan. After evaluating the candidate alternate routes, the MPO must decide whether an acceptable alternate route is available based on previously established criteria. If none of the alternate routes studied are acceptable, then the MPO must return to the Index Data step in order to identify a new set of possible alternate routes.

6.1 Roadway Data Collection

Roadway data will be collected along the preferred alternate routes. Photographs or videos will be taken of each route to provide a visual perspective of the roadway, and the following roadway characteristics recorded:

- Length
- Speed limit
- Traffic control devices, signal timing data
- Pavement condition/design
- Capacity constraints
- Existing structures, bridge conditions (weight / height/ length limits)
- Existing static signage (directional, regulatory, etc.)

² Will be relative to the base “open” case.

³ This will be mode 1 capacity rather than computed HCM capacity, so this will be a general assessment rather than incorporating segment and intersection congestion (this will be captured in the d/c portion of the analysis).

- Roadway design: section type, number of lanes, land width, shoulder width, shoulder material, geometrics (lane configurations), frequency of secondary access, etc.
- Traffic volumes (certain routes may require traffic counts), including heavy truck percentages
- Transit usage (number of routes and frequency)
- Operations (general qualitative assessment)

Preferred routes found to have negative characteristics to diminish its use as an alternate route will be noted. Conversely, the field review may reveal that some of the negative characteristics that removed a route from consideration based on the selection criteria were minimal or nonexistent, allowing for the route to be reconsidered.

6.2 Evaluate Preliminary Alternative Routes

After site visits are conducted, each of the remaining candidate alternative routes must be evaluated. TPAU will be asked to provide demand/capacity (D/C) model data for the alternate routes. The scope of the analysis includes:

- D/C data for any new alternative routes
- Highway Safety Manual (HSM) Predictive Analyses (Expected Crashes) for safety – base case and under detour conditions

Deliverables

- 6A Maps, roadway data, and videos/photos for each segment
- 6B TPAU Demand/Capacity data
- 6C HSM Predictive Analyses

Task 7: Select Preferred and Secondary Alternative Routes

After evaluation of the alternative routes, the preferred alternate route can be selected from among remaining feasible routes. If possible, a secondary and tertiary alternate route in addition to the primary alternate route should be selected. In cases where the primary alternate route is unavailable or impeded, the secondary and tertiary alternate routes could be used to augment use of the primary alternate route.

Task 7.1 Select Alternative Route

Stakeholders and the MPO will select the preferred alternative route(s) based on the following considerations:

- Stakeholder consensus on the best available alternate route.
- Select the best available alternate route that meets established selection criteria and provides satisfactory level of service under implementation conditions.

Task 7.2 Select Secondary & Tertiary Route(s)

The MPO & Stakeholders will choose at least two (preferably three) alternate routes to be considered in cases where the primary alternate route is unavailable or impeded.

Task 7.3 Periodic Review of Alternative Routes

The MPO should review alternate routes periodically to decide if they are still effective or if a new alternate route should be selected. Associated considerations include:

- The MPO should consider an alternate route plan as a living document, given that the best alternate route may change over time as a result of roadway infrastructure improvements or deteriorating day-to-day operation of the designated alternate route. A few situations that may require selection of a new route include:
 - Community opposition to the current alternate route.
 - Increased traffic volume on the alternate route.
 - Construction activities that temporarily reduce capacity on the alternate route.
 - Construction of a new road that could represent a better alternative to the selected alternate route.
 - New development along the alternate route.
 - Security issues.

Task 7.4 Notify Stakeholders about Alternative Routes

- The MPO will notify all affected stakeholders about the alternate route selected. The following groups that may not have participated in the route selection process should be contacted:
 - Agencies from adjacent jurisdictions that may experience impacts from diverted traffic.
 - Major businesses along the alternate route.
 - Emergency services from adjacent jurisdictions that may use the alternate route.
 - Media.

Deliverables

- 7A Map of select route
- 7B Map of secondary & tertiary routes
- 7C Schedule of future alternative route reviews
- 7D Official notification of alternative routes

Phase 2: Alternate Route Plan Development

The second phase is alternate route plan development. In this phase, the MPO and stakeholders will (1) determine alternate route plan content, (2) develop alternate route plan implementation guidelines, and (3) develop guidelines for discontinuing alternate route plan implementation.

Task 1: Create Detailed Alternative Route Maps

The preferred alternative routes were identified in Phase 1 of the work plan. The first task of Phase 2 is to develop detailed maps of the alternative routes.

Task 1.1 Create Detailed Alternative Route Maps

Using GIS, MPO staff will develop detailed alternative route maps. Adequate information to effect rapid plan implementation needs to be provided in the alternate route plan. Information that should be included on an alternate route plan map includes:

- Limits of closure on main road (Road Closed).
- Alternate route, including arrows showing direction of traffic if the route is used one-way only.
- Location of all traffic signals and associated jurisdiction (State, county, local)
- Location of other traffic control devices, such as ramp meters and lane control signals, supporting alternate route operations.
- Location of changeable message signs (CMS) and permanent/temporary trailblazer signage supporting alternate route operations.
- Stationing locations of law enforcement and other personnel involved in providing traffic control during plan implementation.
- Roads and ramps (e.g., freeway entrance ramps upstream of the incident site) that are closed, including the location of primary route closure for which the alternate route applies.
- Number of lanes on alternate route.
- Geometric information (e.g., turning radius and length of curves and ramps).
- Speed limits.
- Ownership of roads.
- Roadway pavement type.
- Background traffic volumes.
- Background vehicle composition (e.g., percent heavy vehicles, buses).
- Parking prohibitions.
- Height and weight restrictions.
- Locations of police stations, firehouses, hospitals, schools, major traffic generators.
- Photos or drawings of trailblazer signs to be used during implementation.
- Each map should be assigned an index number (Sheet 1, 2, etc.). An index map makes it easy for responding personnel to find the appropriate alternate route plan map based on the location of primary route closure. It should show the limits of primary route closure for each alternate route plan map in the set. In order to facilitate creation of the index map, it is important to assign an index number to each plan in the set.

Deliverables

1A Detailed alternative routes maps with index numbers.

Task 2: Develop Detailed Alternative Route Implementation Information Sheets

MPO staff will develop detailed information on the signage, traffic controls, and duties of each stakeholder involved prior to, during, and after the implementation of the alternate route.

Task 2.1 Develop an alternate route checklist that includes:

- Roles/responsibilities of stakeholders
- Signage, including CMS message sets.
- Traffic control devices (i.e., cones, signs) to be deployed when the alternate route plan is implemented.
- Contact information for all agencies, involved with the alternative route plan. Contact information will include both office and off-hours (remote) contacts.

Task 2.2 Develop maps showing the location of all supporting ITS equipment.

- Location of ITS equipment which includes; (1) information dissemination equipment, such as changeable message signs (CMSs) or highway advisory radios (HARs), (2) surveillance equipment, such as detectors or closed-circuit television cameras, and (3) traffic control equipment, such as ramp meters. These maps are useful both for planning alternate routes as well as for reference when the alternate route is being implemented.

Task 2.3 Alternate route plan maps with written directions.

- Develop written directions in addition to the graphic instructions included on a map.

Task 2.4 Traffic signal timing plan.

- The alternate route plan will include the modification of the traffic signal timing to accommodate the additional traffic volume. The plans will indicate for each intersection the cycle length and the green time split assigned to the alternate route.

Task 2.5 Traveler information plan.

Associated considerations include:

- If traveler information devices, such as CMS or HAR are used, the MPO will develop a plan showing sample message sets to be included.
- The MPO will develop protocols for media outreach, both for peak periods and off-peak periods.

Deliverables

- 2A Alternative route checklist
- 2B ITS equipment maps
- 2C Directions (text) for alternative route maps
- 2D Signal timing plan
- 2E Traveler information plan

Task 3: Develop Alternative Route Plan Implementation Guidelines

The objective of Task 3 is to develop guidelines that identify when to implement an alternative route plan after an incident has occurred. Some examples of when to implement the alternative route plan include; whenever there is at least one lane closed, or when the entire roadway is closed. The choice of when to implement the alternate route plan typically represents a function of traffic capacity lost on the mainline due to roadway closure and the traffic capacity available on the alternate route.

Task 3.1 Develop alternative route implementation guidelines

MPO staff will develop proposed guidelines for when an alternative route plan will be implemented. The selected criteria must be clearly shown on the plans to ensure that the alternate route plan is implemented only when required. The guidelines will include the following factors:

- Number of lanes closed
- Anticipated incident duration
 - Section 6I of the *2003 Manual on Uniform Traffic Control Devices (MUTCD)* covers incident management. It presents the following definitions for incident levels:
 - Major—expected duration of more than 2 hours.
 - Intermediate—expected duration of 30 minutes to 2 hours.
 - Minor—expected duration under 30 minutes.

According to the 2003 MUTCD, route diversion is usually needed for major incidents, but rarely used for intermediate or minor incidents. The MPO, however, may choose to use route diversion for intermediate incidents, especially if it involves complete closure during rush hour.

- Capacity of the proposed alternate route
 - If the alternate route has a very low capacity (yet represented the only viable alternate route during the selection phase), then it should only be used as an alternate route when absolutely necessary, such as during a long-term complete closure of the mainline (e.g., bridge collapse) or when no other alternative is available.
- Resources provided by stakeholders

Task 3.2 Develop guidelines for partial implementation of an alternate route plan

MPO staff will develop a partial alternative route implementation plan that addresses certain circumstances where the plan may be partially implemented without the need for all elements. For example, not all traffic control techniques may be needed during a during a single-lane closure versus complete implementation during a complete closure.

Deliverables

- 3A Alternative route implementation decision matrix
- 3B Alternative route partial implementation decision matrix

Task 4: Develop Guidelines for Discontinuing Alternative Route Plan Implementation

The goal of Task 4 is to establish guidelines for discontinuing alternate route implementation to ensure that traffic conditions do not significantly deteriorate on the alternate route. In addition, this task will include guidelines for terminating alternate route plans when the primary route is no longer restricted or when the alternate route is not performing adequately.

Task 4.1 Develop criteria for discontinuing alternative route plan

MPO staff will develop measurable criteria for deciding when to discontinue an alternate route plan. The decision will be based on the available capacity on the mainline from where traffic was diverted and the operation of the alternate route. Potential criteria includes:

- When capacity is again restored on the primary route.

- For example, if an incident initially created a full closure on a roadway and one or two lanes are subsequently opened to traffic, then the restored capacity may be adequate to accommodate mainline traffic flow. As a result, use of the alternate route could be discontinued.
- If traffic conditions on the alternate route deteriorate due to a secondary incident or excessive traffic demand that exceeds the capacity of the alternate route.
 - In both instances, it may be necessary to implement a secondary alternate route to accommodate traffic flow from the primary route.
- After the mainline is completely reopened.

Deliverables

4A Matrix of criteria for discontinuing an Alternative route

DRAFT

Phase 3: Traffic Management Planning

The third phase in the alternate route planning process is traffic management planning. Three tasks associated with traffic management planning include:

- Determine information dissemination methods to notify motorists of the alternate route.
- Determine information dissemination methods to guide motorists along alternate route.
- Determine traffic control measures to be implemented on alternate route.

Task 1: Determine Information Dissemination Methods to Notify Motorists of the Alternative Route

Motorists must be notified when a major incident occurs, and be provided information on available alternate routes a sufficient distance upstream of the diversion point. Two general methods of information dissemination include en-route and pre-trip. The three types of information to be disseminated include (1) a mandatory diversion message, (2) a voluntary diversion message, or (3) information on traffic conditions only, leaving motorists to determine whether to divert from the primary route to an alternate route.

Task 1.1 Develop Alternative Route Motorist Messaging Plan

MPO staff will develop a set of mandatory and voluntary alternative route messages to disseminate to en-route and pre-trip motorists utilizing the following sources of sharing traveler information:

- Changeable message signs (CMSs) are electronic signs located above or alongside the roadway, which allow multiple messages to be displayed to motorists. CMSs can be either permanent or portable. Portable CMSs are especially useful for traffic management during alternate route implementation. CMSs provide information to all passing motorists at a precise location.
- Highway advisory radio (HAR) represents another commonly used method for disseminating en-route information to motorists. HAR is useful for providing area-wide messages, rather than just at a single point. HAR messages can be more detailed than CMS messages. Both permanent and portable HAR are available.
- Other methods that are used, especially in areas where CMSs and HAR have not been implemented and portable devices are not available, include:
 - Positioning a traffic control officer at a diversion point in order to direct traffic to/from an alternate route
 - Deployment of temporary static signs
 - Media sources, such as television and radio, that can be used to provide both pre-trip and en-route traveler information.
- Internet
- Telephone information systems (i.e., 511).

Deliverables

1A Alternative route messaging plan

Task 2: Determine Information Dissemination Methods to Guide Motorists Along the Alternative Route

After diverting to an alternate route, motorists must be provided with adequate information in order to navigate the alternate route to the point where the alternate route connects to the primary route. Typically, trailblazer signs guide motorists along the alternate route and back to the primary route, connecting at some point downstream of the incident site. MPO staff will develop a list of signage needs, inventory availability of signage, and identify agencies responsible for deploying signs along alternative routes. The

other part of this task is to identify the agency(s) and personnel necessary to place the signage. Examples of types of signs and trailblazers include:

- Permanent trailblazers erected along an alternate route that is frequently used.
- Blank-out trailblazers or route marker signs with electronic changeable arrows.
- Permanently mounted flip signs (facing opposing traffic when not in use, flipped by traffic control officers to face traffic when in use).
- Fold-out signs.
- Color-coded trailblazers (i.e., “blue route”).
- Permanent or portable CMSs.

Deliverables

- 2A List of signage needs
 2B Inventory of available signage (coordinated with participating agencies)
 2C Signage deployment plan (agencies/personnel roles/responsibilities)

Task 3: Determine Traffic Control Measures to be Implemented on the Alternate Route

The objective of Task 3 is to develop specific traffic control measures to accommodate increased traffic demand during the implementation of an alternate route. Typical traffic control techniques used on alternate routes to accommodate increased demand include:

- Law enforcement control.
- Modified traffic signal timings to provide additional green time to the alternate route.
- Suspension of roadwork activities along the alternate route.
- Enforcement of parking restrictions along the alternate route.
- Alternative lane operations.

Deliverables

- 3A Traffic control plan for alternative routes

Final Task: Fully-documented alternative route plan (Phases 1, 2 &3) with maps.

Exhibit A: Project Schedule

MRMPO Alternative Route Task Timeline - September 2017 - September 2018			
Task	Estimated Start	Draft Due	Estimated Finish
Phase 1A - Scope of Work, Agency Interviews, Objectives & Key Stakeholders			
Task 1: MRMPO TAC & Policy Committee Review/Approval of Alternative Route Plan Scope of Work			
Subtask 1.1 - TAC & Policy Committee Review/Approval of Scope of Work			
TAC Review/Approval	1-Jun-2017	31-Aug-2017	7-Sep-2017
Policy Review/Approval	1-Jun-2017	14-Sep-2017	21-Sep-2017
Task 2: Agency Interviews			
Subtask 2.1 - Agency Interviews	1-Sep-2017	20-Sep-2017	28-Sep-2017
Task 3: Determine Objectives			
Subtask 3.1 Determine Objectives			
TAC Review/Approval	11-Sep-2017	28-Sep-2017	5-Oct-2017
Policy Review/Approval	5-Oct-2017	12-Oct-2017	19-Oct-2017
Task 4: Identification of Local Agency Representatives & Key Stakeholders			
Subtask 4.1 - Stakeholder Advisory Committee	9-Oct-2017	26-Oct-2017	2-Nov-2017
Phase 1B - Select Preferred Alternative Route			
Task 5: Establish Criteria & Preliminary Alternative Route Map			
Subtask 5.1 - Alternative Route Selection Criteria	2-Nov-2017	30-Nov-2017	7-Dec-2017
Subtask 5.2 - Data Collection & Analysis	2-Nov-2017	30-Nov-2017	7-Dec-2017
Subtask 5.3 - Identify Preliminary Alternative Routes	2-Nov-2017	30-Nov-2017	7-Dec-2017
Subtask 5.4 - Demand/Capacity Analysis on Preliminary Alternative Routes	11-Dec-2017	28-Dec-2017	4-Jan-2018
Subtask 5.5 - Develop Preliminary Alternative Route Map	11-Dec-2017	28-Dec-2017	4-Jan-2018
Task 6: Field Data Collection - Site Visits			
Subtask 6.1 - Roadway Data Collection	8-Jan-2018	25-Jan-2018	1-Feb-2018
Subtask 6.2 - Evaluate Preliminary Alternative Routes	5-Feb-2018	22-Feb-2018	1-Mar-2018
Task 7: Select Preferred & Secondary Alternative Routes			
Subtask 7.1 - Select Alternative Route	5-Feb-2018	22-Feb-2018	1-Mar-2018
Subtask 7.2 - Select Secondary & Tertiary Route(s)	5-Feb-2018	22-Feb-2018	1-Mar-2018
Subtask 7.3 - Periodic Review of Alternative Routes	5-Mar-2018	29-Mar-2018	5-Apr-2018
Subtask 7.4 - Notify Stakeholders about Alternative Routes	5-Mar-2018	29-Mar-2018	5-Apr-2018
Phase 2: Alternative Route Plan Development			
Task 1: Create Detailed Alternative Route Maps			
Subtask 1.1 - Create Detailed Alternative Route Maps	9-Apr-2018	26-Apr-2018	3-May-2018
Task 2: Develop Detailed Alternative Route Implementation Information Sheets			
Subtask 2.1 - Develop an Alternative Route Checklist	7-May-2018	31-May-2018	7-Jun-2018
Subtask 2.2 - Develop ITS Equipment Location Maps	7-May-2018	31-May-2018	7-Jun-2018
Subtask 2.3 - Alternative Route Map Written Directions	7-May-2018	31-May-2018	7-Jun-2018
Subtask 2.4 - Traffic Signal Timing Plan	11-Jun-2018	28-Jun-2018	5-Jul-2018
Subtask 2.5 - Traveler Information Plan	11-Jun-2018	28-Jun-2018	5-Jul-2018
Task 3: Develop Alternative Route Plan Implementation Guidelines			
Subtask 3.1 - Develop Alternative Route Implementation Guidelines	9-Jul-2018	26-Jul-2018	2-Aug-2018
Subtask 3.2 - Develop Guidelines for Partial Implementation of an Alternative Route Plan	9-Jul-2018	26-Jul-2018	2-Aug-2018
Task 4: Develop Guidelines for Discontinuing Alternative Route Plan Implementation			
Subtask 4.1 - Develop Criteria for Discontinuing Alternative Route Plan	9-Jul-2018	26-Jul-2018	2-Aug-2018
Phase 3: Traffic Management Planning			
Task 1: Determine Information Dissemination Methods to Notify Motorists of the Alternative Route			
Subtask 1.1 - Develop Alternative Route Motorist Messaging Plan	6-Aug-2018	30-Aug-2018	6-Sep-2018
Task 2: Determine Information Dissemination Methods to Guide Motorists Along the Alternative Route			
Subtask 2.1 - Develop Signage Plan	6-Aug-2018	30-Aug-2018	6-Sep-2018
Task 3: Determine Traffic Control Measures to be Implemented on the Alternative Route			
Subtask 3.1 - Traffic Control Plan	6-Aug-2018	30-Aug-2018	6-Sep-2018