



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Agenda

Meeting: **RTP Safety work group meeting #5**
 Date: Tuesday, April 4, 2017
 Time: 9-11 a.m.
 Place: Metro Regional Center, Room 401
 Purpose: Review Draft Annotated Table of Contents for the 2018 Regional Transportation Safety Action Plan
 Outcome(s): Input on Draft Annotated Table of Contents

- | | | |
|------------|--|--------------|
| 9 a.m. | Welcome & introductions | Tom Kloster |
| 9:15 a.m. | Updates and Announcements <ul style="list-style-type: none"> • <i>January 24 meeting summary</i> • <i>Update on Metro Council work session</i> • <i>Upcoming presentations on Safety to MPAC (4/12) & JPACT (4/20)</i> • <i>2018 RTP Investment Strategy</i> • <i>Update on testing safety performance measures through MTIP evaluation</i> • <i>Work Group member updates or announcements</i> | Lake McTighe |
| 9:45 a.m. | 2018 RTSAP Draft Table of Contents <ul style="list-style-type: none"> • <i>Overview of memo</i> • <i>Discussion & input</i> | Lake McTighe |
| 10:45 a.m. | Next steps <ul style="list-style-type: none"> • <i>Complete analysis of 2011-2015 crash data</i> • <i>Review draft plan at July 27 meeting</i> • <i>Review updated draft at September 14 meeting</i> • <i>TPAC / MTAC review of Draft Plan – October –December</i> | Lake McTighe |
| 11 a.m. | Adjourn | Tom Kloster |

Meeting Packet	Next Meetings
<ul style="list-style-type: none"> • Agenda • Memo: 2018 RTSAP Annotated Table of Contents – Discussion Draft • Summary of January 24 meeting 	<p>Thursday, July 27, 2017 9-11 a.m. Metro, room 401</p> <p>Thursday, September 14, 2017 9 to 11 a.m. Metro, room 401</p>

Directions, travel options and parking information

Covered bike racks are located on the north plaza and inside the Irving Street visitor garage. Metro Regional Center is on TriMet bus line 6 and the streetcar, and just a few blocks from the Rose Quarter Transit Center, two MAX stations and several other bus lines. Visit our website for more information: <http://www.oregonmetro.gov/metro-regional-center>

Meeting minutes



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Meeting: **RTP Safety work group meeting**
Date/time: Tuesday, January 24, 2017 | 9-11 a.m.
Place: Metro Regional Center, room 370 a/b
Purpose: Final review of safety performance targets, measures and high injury corridors

Work Group Attendees

Becky Bodonyi
Katherine Burns (via phone)
Tegan Enloe
Nick Fortey
Tom Kloster
Lake McTighe, Work Group Lead
Noel Mickelberry
Jeff Owen
Amanda Owings
Luke Pelz
Kari Schlosshauer
Chris Strong
Clay Veka

Affiliate

Multnomah County
Oregon Department of Transportation
City of Hillsboro
Federal Highway Administration
Metro
Metro
Oregon Walks
TriMet
City of Lake Oswego
City of Beaverton
Safe Routes to Schools
City of Gresham
City of Portland

Work Group Interested Parties Attendees

Louis Ornelas

Affiliate

Shared Vision Consulting

Staff Attendees

Clint Chiavarini, Metro
Grace Cho, Metro
Marie Miller, Metro
Michael Serritella, Metro

Welcome & introductions & partner updates

The meeting was called to order by Tom Kloster, Regional Planning Manager, at 10:10 a.m. Partner updates were given by those in attendance. Kari Schlosshauer reported on the work with Regional Safe Routes to School Framework, with a link to the website sent to the group following this meeting. Luke Pelz reported that Beaverton is working on initiatives for safety. Tegan Enloe with the City of Hillsboro reported that the process through committees is underway regarding their safety action proposal.

Lake McTighe, Safety work group lead, provided an overview of the meeting packet, with additional comments by members unable to attend the meeting. The purpose of the meeting was to seek final comments and suggestions with the Safety Performance and Targets, and High Injury Corridors drafts, which would bring the process forward. The group would return in April to discuss action plans next for implementation steps in the process.

Safety performance and targets

Lake McTighe shared the goal with momentum now to get formal target dates approved for Vision Zero, including two interim and one annual target date used as measurement towards the final date of 2035. Vision Zero states that by 2035 we eliminate transportation related fatalities and serious injuries for all users of the region's transportation system, with a 16% reduction by 2020 (as compared to the 2015 five year rolling average), and a 50% reduction by 2025.

Methodology created by ODOT toward 2025 of a "S" curve that proposed reductions in crashes/fatalities representing a more realistic benchmark was shown with charts for motor vehicles, pedestrians and bicyclists crashes and fatalities. Members agreed it might be more realistic but not show the urgency. Concern that if we did not go after these issue aggressively, the consequences for more aggressive action may not occur. Discussion was held on financial resources would be allocated to safety projects in support of Vision Zero if there is consensus at various levels of government if a priority issue.

Comments from the work group:

- The target year of 2035 would not change in subsequent RTP updates.
- Is it helpful to show in the graphic what would happen if we didn't do anything?
- Half of fatalities in Hillsboro are pedestrians. It's important to highlights facts like this.
- Are these targets developed internally or State targets? How are they similar/different? Metro has tracking components with 2015 target different than interim targets for evaluations.
- Have we looked at a target for policy makers in terms of spending that match data to targets? McTighe stated this could be explored in the action plan as a recommendation.
- How much investment is being planned in RTP? Currently is does not have funding amounts attached to it. The policy expectations are the next steps in the plan.
- If the state's goal is zero, there's an implied revenue stream. How does this goal compare investment wise to the State as a whole?
- How can we impact decision making with goals around safety? What is the feedback loop that lets us know if we are getting at our intentions?
- This is a more financially constrained RTP where safety value needs to be shown in projects.

Lake McTighe provided definitions of 'safety project' and the 'safety countermeasures' from exposure to crash risks with methodology for evaluations (attachments Measure #4 and #5). **Safety Projects** in the RTP are capital infrastructure projects with the primary intent to address a safety issue, and allocate a majority of the project cost to a documented safety countermeasure(s) to address a specific documented risk, or improve safety for vulnerable users, including people walking and bicycling, older adults and youth.

Safety countermeasures are actions taken to improve transportation safety and therefore decrease the number of injuries and fatalities. Safety countermeasures may include geometric design, systemic safety, and intelligent transportation systems. *Countermeasures should be selected based on analytical techniques that prove effectiveness.*

Comments from the work group:

- Countermeasures definition's use of the word *systemic* was limiting as it may exclude spot treatments to specific locations.

- Agreement on comments submitted by Joe Marek, handout at meeting. “The first goal related to safety infrastructure investments may be a little vague. We want to identify our investments based on projects that work. So this goal could be tied to some documented improvement proven to work, similar to what the ARTS project did. This could be worked into the criteria of defining the “safety project”. Does the solution have a crash modification factor as identified in the HSM as it is calibrated or is the safety benefit documented in some other credible way.”
- Are we defining safety as decreasing crashes with injuries/fatalities? We could be more explicit about safety; safety countermeasures are actions taken to decrease the number of severe injuries and fatalities.
- Traffic engineering is being left out of the equation.
- Need to identify all modes of travel in the plan with both current and long-term projections
- Define what safety measures mean for Vision Zero more clearly.
- VMT is not causing more crashes. Rather than VMT, use other factors for situations, demographics, changes in traffic patterns, etc. Treat the cause of the crash. Reduce obstacles to show crash reductions.
- What about proactive projects that anticipate pedestrian risk? (i.e. opening a school near a busy arterial); this could be included so that all projects are not reactive in nature.
- How is VMT data used in regard to safety investment? Can we show balanced investments to bike/pedestrian/vehicle with results of decreasing exposure to crashes?

High injury corridors

Lake McTighe asked the work group if they had any further comments on the High Injury Corridor, draft report. The map showed 60% of severe crashes occurring on 6% of all streets regionally. High injury corridor maps in the region for auto, bike and pedestrian were also shown. Top 35 corridors highest severe crashes per mile for each mode and combined – severe injuries only, normalized by length of segment.

Comments from the work group:

- Question on how this network would be used in determining project evaluation criteria. It would likely be used as a tool to collect information for tracking, evaluation and prioritizing investments for safety.
- Suggestion to overlay the map of marginalized communities to better communicate the urgency of the safety issue.
- Potential for including ‘high injury intersections’ on the maps/data.
- How is the HIC related to project evaluation criteria? Will this be used to prioritize investments? Projects on this network can be tracked, and help to prioritize projects for future funding.
- Suggested getting the maps online to show the impact to safety in the HIC.
- Is there a potential for High Injury Intersections?
- The issue with Interstate Avenue (on map) is being fixed (technical glitch). The main difference between Metro’s HIC and PBOT’s HCN is around methodology in defining corridors.

- Questions on segmented or continuous corridors not shown on map. Could we show the full length to focus of impact?
- Clarification on downtown Portland not showing auto crashes in HIC category. This wasn't included in the top 35 corridors, fatalities lower with lower speeds in this area.
- Using the same names and identifications on maps and tables would be helpful.
- Using an interactive map online would be useful.
- Different jurisdictions will find the full top 35 corridors useful for funding requests, safety investments.
- Policy actions can be used with this information.

Additional comments and questions on any of the materials with Safety performance and targets, and High Injury Corridors are welcome. Please forward to Lake McTighe.

Next steps

The work group has made good progress. The timeline with next steps of meetings is as follows:

- TPAC - Jan 27
- MTAC - Feb 1
- Metro Council work session - March 7
- JPACT - March 16
- MPAC - March 22 (tent.)
- Next Safety Work Group meeting – draft actions for the updated RTSAP - April 4 (tent.)

Adjourn

There being no further business, meeting was adjourned by Lake McTighe at 10:50 a.m.

Meeting minutes respectfully submitted by:

Marie Miller, Administrative Specialist

Michael Serritella, Regional Transportation Planning Intern

Next meeting of RTP Safety work group

Tuesday, April 4, 2017, 9-11 a.m.

Metro Regional Center, room 270

Attachments to the Record:

Item	Topic	Document Date	Description
1	Agenda	1/24/2017	Jan. 24, 2017 Meeting Agenda
2	Cover Memo	1/17/16	2018 RTP Safety work group meeting #4
3	Meeting Summary	10/20/16	RTP Safety work group meeting summary 10/20/16
4	Report	1/2017	Performance Targets & Measures, draft
5	Report	1/2017	High Injury Corridors, draft
6	Attachment	1/20/2017	Technical Review draft, Measure #4 Share of safety projects
7	Attachment	1/20/2017	Technical Review draft, Measure #5 Exposure to crash risk
8	Handout	1/23/2017	Comments from Joe Marek on Safety work group meeting materials
9	Handout	1/23/2017	Comments from Stephanie Noll on Safety work group meeting materials



Metro

Regional Transportation Safety Action Plan – Draft table of contents

2018 RTP safety Work Group – Meeting #5

April 4, 2017

Welcome & introductions

- Name & organization



Meeting purpose

- Updates and announcements
- Work Group input on the draft table of contents for the Regional Transportation Safety Action Plan

Updates & announcements

Recap of January 24 meeting – comments on meeting summary

- Work Group provided recommendation to move forward with the Vision Zero target
- Work Group provided recommendation to move forward with safety performance measures, with understanding that more testing/refinement is necessary

Updates & announcements

- Recap of Metro Council policy guidance
- Upcoming presentations to MPAC (4/12 *or* 4/26) and JPACt (4/20)
- 2018 RTP Investment Strategy and Call for Projects

Updates & announcements

Testing safety performance measures through MTIP equity analysis

1. Exposure to VMT and Crash Risk
2. Share of Safety Projects

Updates & announcements

Exposure to VMT and Crash Risk, findings so far

- Region: Slight increase in VMT projected with 2018-2021 MTIP investments.
- HMC and FHMC: Slight decrease in VMT exposure projected with 2018-2021 MITP investments.

Updates & announcements

Share of Safety Projects, findings

- Region: About 13%, represented by 60 projects (out of 163), 2018-2021 MTIP investments are transportation safety projects. Per capita spending is approximately \$98.
- HMC: The proportional number of transportation safety projects and per capita spending is higher than the region in areas with historically marginalized communities.
- FHMC: Half of the transportation safety projects are in areas with focused historically marginalized communities. Per capita spending is higher.

Updates & announcements

Work Group member updates or announcements?

Regional Transportation Safety Action Plan Draft table of contents

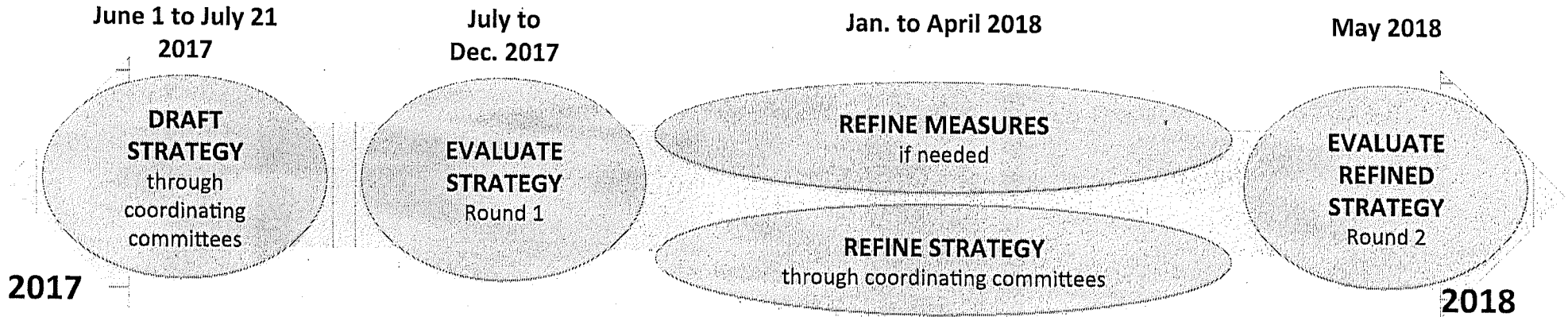
1. Organization and sequence?
2. Sections/ topics missing?
3. Regional Emphasis Areas?
4. Focus on Metro/ regional actions?
5. Update RTP Goals and Objectives?
6. Specific to RTP safety policies and section dedicated to safety?

Next steps

- **April 4** – Transportation Safety Work Group provides input on draft content for the Draft 2018 Regional Transportation Safety Action Plan
- **April 12** (or 26)- MPAC provides policy direction on transportation safety policy area
- **April 20** – JPACT provides policy direction on transportation safety policy area
- **July 27**- Transportation Safety Work Group provides input on strategies and actions
- **September 14** - Transportation Safety Work Group provides input on draft plan
- **October – November 2017** – TPAC and MTAC provide input on Draft 2018 Regional Transportation Safety Action Plan

DRAFT Building the RTP Investment Strategy

Summary of coordination, evaluation and refinement activities | June 1, 2017 to June 1, 2018



Metro issues Call for Projects

Cities and counties work with Metro, ODOT, Port, TriMet, and SMART through technical and policy coordinating committees to identify projects to submit

Agencies submit project information on-line to Metro by July 21

Agencies seek endorsement of projects from governing bodies by Aug. 25

All agencies pilot using project criteria for top 5 projects to test criteria and provide information to sponsoring agencies, regional decision-makers, and the public to communicate the potential return-on-investment of individual projects

Metro compiles draft project to review project submittals and project criteria with TPAC and MTAC

Metro evaluates draft strategy and identifies any shortcomings of measures and project criteria

Metro prepares draft regional-level findings on system performance and transportation equity analysis

Metro convenes RTP work groups, TPAC and MTAC and works with coordinating committees to review draft regional findings and deficiencies, and recommend changes, if any, that are needed

Metro packages corridor-level and other technical information for agencies to use to refine projects with coordinating committees

Coordinating committees prepare to refine project lists in response to the system evaluation, transportation equity analysis, project evaluation and public input

On-line comment opportunity on draft project lists and regional findings

Convene Regional Leadership Forum 4 to:

- Discuss regional findings and deficiencies, project information and public input on draft projects lists
- Discuss updated funding information
- Receive direction on refining investment priorities (e.g., timing and/or constrained/strategic list) and updated evaluation measures and project criteria

Metro convenes RTP work groups to recommend refinements to system performance and transportation equity measures and project evaluation criteria for future use (Round 2)

Cities and counties work with Metro, ODOT, Port, TriMet and SMART through technical and policy coordinating committees to identify investment strategy refinements, if needed or desired

Agencies submit updated projects on-line to Metro by April 29; all project submittals include use of updated project criteria

Metro compiles refined draft project lists to review with TPAC and MTAC

Metro evaluates refined draft project lists and updates regional-level findings on system performance and transportation equity analysis

Metro reviews updated findings with TPAC and MTAC to frame tradeoffs and choices for Metro Council, JPACT and MPAC direction

Metro Council and JPACT recommend which draft project list (Round 1 or Round 2 or Hybrid) to be released during 45-day public comment period

RTP Transportation Safety Projects definition

Safety Projects in the RTP are capital infrastructure projects with the primary purpose of reducing the occurrence of traffic related fatalities and serious injuries, allocating a majority of the project cost to a documented safety countermeasure(s) to address a specific documented safety problem (as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can with confidence produce a measurable and significant reduction in such fatalities or serious injuries), or addresses systemic safety for vulnerable users, including people walking and bicycling, people with disabilities, older adults and youth.

Safety countermeasures are actions taken to decrease the number of traffic injuries and fatalities, either through systemic or hot spot safety projects. Safety countermeasures may include geometric design, engineering solutions, systemic safety projects, signalization, signs, markings and operational upgrades and intelligent transportation systems. Countermeasures should be selected based on analytical techniques that prove effectiveness. Examples of proven safety countermeasures include, but are not limited to, FHWA's nine proven safety countermeasures: road diets, medians and pedestrian crossing islands, pedestrian hybrid beacons, roundabouts, access management, retroreflective backplates, safety edge, enhanced curve delineation, and rumble strips.

Systemic safety projects are applied over an entire road/corridor to reduce crashes and risks along the entire roadway/corridor.

Criteria

- Capital infrastructure project
- On high risk bike/ped corridor (in ODOT bike ped safety implementation plan)
- On Metro High Injury Corridor or Local high crash corridor identified in local safety plan
- Area with one fatal or severe crash in the last five years
- High injury intersection
- Majority project cost going to documented safety countermeasure to address identified safety issue or systemic safety issue for vulnerable users, including people walking and bicycling, people with disabilities, older adults and youth, including those bike/ped projects identified by the FHWA as eligible for HSIP funding, if correcting or improving a hazardous road location or feature and consistent with Oregon TSAP
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.pdf
- Paths/trails and bridges/undercrossing if directly adjacent to the high injury location (e.g. path alongside high injury roadway)

Projects not identified as safety projects

- Pavement/preservation/replacement projects
- Trail/multi-use path/ bike-ped bridge projects – unless directly adjacent to a roadway/bridge with a safety issue
- Transit project, e.g. bus replacement, (not including bike/ped access to transit projects)

- Majority of project cost going to capacity/mobility

ODOT All Roads Transportation Safety (ARTS) safety project definitions

Systemic safety projects are proven, low-cost measures that have successfully reduced the occurrence of fatal and serious injury crashes and that can be widely implemented, like rumble strips on the shoulder of the road.

Hot spot safety projects are identified by a higher than normal crash occurrence. These are often higher cost projects and are targeted to a specific segment of roadway or intersection.

The objective of ARTS and HSIP is to significantly reduce the occurrence of fatalities and serious injuries. A data-driven approach uses crash data, risk factors, or other data supported methods to identify the best possible locations to achieve the greatest benefits. Many highway projects incorporate design features or elements that relate to highway safety, such as updating guardrail or improvements to intersection channelization, signing and pavement markings. But appropriate use of HSIP funds is only for locations or corridors where a known problem exists as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can with confidence produce a measurable and significant reduction in such fatalities or serious injuries. To achieve the maximum benefit, the focus of the ARTS program is on cost effective use of the funds allocated for safety improvements addressing fatal and serious injury crashes.¹

All Projects shall:

- Address a specific Safety problem contributing to fatalities and serious injuries
- Use proposed countermeasures that correct or substantially improve the fatal and serious injury problem
- Use ODOT crash data to establish the Benefit/Cost ratio
- Use ODOT Benefit Cost method
- Be prioritized or categorized based on the Benefit/Cost Ratio for developing the 150% list
- Use only countermeasures from the approved ODOT Crash Reduction Factor list (a written process will be developed for considering new measures)
- Projects must include written support from the Road Jurisdiction if the project is proposed by another agency
- Benefit Costs will be based on the most recent available three to five years of crash data

The traditional approach to safety is to identify “hot spot” locations, and then identify measures to implement by diagnosing the “hot spot”.

Hot Spot Projects shall:

- Address a location with a crash history of at least one fatal or serious injury crash within the last five years

¹ ODOT, November 2014, All Roads Transportation Safety Program

The systemic approach identifies a few proven low-cost measures to be widely implemented, then implements the measures where there is evidence that they would be most useful. The systemic measures have been proven to successfully reduce the occurrence of fatal and serious injury crashes. The sites may be selected from ODOT's list of priority corridors for Roadway Departure, Intersections or Pedestrian/Bicycle crashes.

Systemic Projects shall:

- Use only approved "Systemic" countermeasures as listed in the Crash Reduction factors list
- Not require the acquisition of significant amounts of right of way (more than 10% of project costs), preferably no right of way.
- For the Pedestrian and Bicycle Benefit Cost Analysis, use Highway Safety Manual methods to estimate predicted crashes for pedestrians and bicycles.

Systemic Projects should:

- Have a history of fatal or serious injury crashes or a risk of high severity crashes and preferably used on priority corridors from Systemic plans.

Highway Safety Improvement Program (HSIP) Criteria

- Addresses a priority in the State's SHSP- strategies, actions, (e.g. traffic calming measures, bike/ped safety, speed reduction)
- Is identified in a data driven process – crash experience, crash rate, hot spot of risk-based system approach
- Project helps solve the safety problem identified through the data-driven process
- Contributes to a reduction in fatalities and serious injuries using proven countermeasures

Share of Transportation Safety Projects and Per Capita Spending in Transportation Safety

Within the 2018-2021 MTIP, approximately 39% of the transportation projects and 13% of the investment program are identified as transportation safety-related.¹ The number of projects in transportation safety in the 2018-2021 MTIP is not a surprising recognizing for many years safety has been a U.S. DOT priority and there is federal highway administration funding program dedicated towards implementing transportation safety measures. Additionally, transportation safety has also been criteria for the MPO regional flexible funds. However, the investment level in transportation safety only makes up a small component of the overall 2018-2021 MTIP.

Table 9. 2018-2021 MTIP – Summary of Identified Transportation Safety Projects

	Total	Estimated 2018-2021 MTIP cost	Safety projects	Estimated 2018-2021 MTIP safety cost	% Projects	% Investment
Total 2018-2021 MTIP projects ²	163	--	64	--	39%	--
Total 2018-2021 MTIP cost	157	\$ 1,174,264,122	60	\$ 152,407,484	38%	13%

While only 13% of the 2018-2021 MTIP represent transportation safety investments, when looking more closely at where the transportation safety investments are being made is between half (50%) to two-thirds (66%) of safety investments are being made in historically marginalized communities and focused historically marginalized communities.³ Furthermore, the transportation safety investments being made in historically marginalized communities and focused historically marginalized communities represent a total of 76% and 60% of the transportation safety investments respectively. At a per capita basis, region-wide, transportation safety level is at \$98 per person, where investment level within historically marginalized and focused historically marginalized communities is at \$177 and \$156 per person respectively. These results appear to indicate a level of transportation safety investment is being targeted in historically marginalized communities at a per capita level greater than the region. The results show transportation safety investments levels moving in the direction desired by historically marginalized communities and the assumed outcome would be of these investments would be safer streets for all users.

¹ Note, the total number of 2018-2021 MTIP projects are from January 2017. The total number of projects are subject to change based on project implementation delay and carrying over from the 2015-2018 MTIP to the 2018-2021 MTIP. Additionally, at the time of request project cost information had not been finalized for all projects therefore cost information was unavailable for four identified transportation safety projects.

² See footnote 10.

³ At the time of the 2018-2021 MTIP data request, some transportation safety projects were unable to provide exact locations of where the investments would be made. These investments provided programmatic areas (e.g. City of Gresham or City of Portland), but due to the lack of defined spatial information, they were therefore excluded from the geographic assessment looking at transportation safety investments in historically marginalized and focused historically marginalized communities. The number of projects affected in this way includes 16 projects representing approximately \$32 million of investments. These 16 projects were included as part of the region-wide per capita spending on transportation safety investments.

Table 10. Transportation Safety Investment Levels in Communities and Per Capita Expenditure

	Total projects	% of project total	Estimated 2018-2021 MTIP safety cost	% of investment total	Population	Cost per person
Total 2018-2021 MTIP Projects	157 (163)	100%	\$ 1,174,264,122	100%	1,559,517	\$ 753
Total 2018-2021 MTIP transportation safety projects	60 (64)	38%	\$ 152,407,484	13%	1,559,517	\$ 98
Within HMC (transportation safety only)	40	66% (of 38%)	\$ 115,072,066	76% (of 13%)	650,849	\$ 177
Within FHMC (transportation safety only)	30	50% (of 38%)	\$ 91,000,398	60% (of 13%)	583,087	\$ 156

Exposure to Vehicle Miles Traveled (VMT) and Crash Risk

Overall, the 2018-2021 MTIP investments appear to be slightly increasing vehicle miles traveled (VMT) region-wide, but a minor reduction of VMT is projected in historically marginalized communities and focused historically marginalized communities.⁴ Table 11. illustrates the change in VMT with the 2018-2021 MITP investments.

Table 11. Aggregate Vehicle Miles Traveled (VMT)

Base Year Regionwide VMT (2015)	2018-2021 MTIP Regionwide VMT	Difference in VMT (MTIP – Base Year)	Percent Difference
17,607,229	17,617,629	10,401	0.1%
Base Year HMC VMT (2015)	2018-2021 MTIP HMC VMT	Difference in VMT (MTIP – HMC Base Year)	Percent Difference
9,697,260	9,667,200	-30,060	-0.3%
Base Year FHMC VMT (2015)	2018-2021 MTIP FHMC VMT	Difference in VMT (MTIP –FHMC Base Year)	Percent Difference
7,072,110	7,062,050	-10,059	-0.1%

Because VMT is correlated with and one of many factors contributing to crashes on the transportation system, the slight increase in VMT projected means the region must be diligent in implementing countermeasures and the other principles of transportation safety (the six E’s – engineering, education, encouragement, enforcement, equity, and evaluation), to reduce the overall exposure and risk of crashes.

However, a positive result seen from the assessment is a minor decrease in VMT is projected in area with historically marginalized communities and focused historically marginalized communities. The decrease is minor at .3% and .1% respectively. Nonetheless, the projected results illustrate the 2018-2021 MTIP investments are performing in the desired direction in that exposure to VMT in these communities is going down, even if it is slightly increasing overall. The decrease in VMT in

⁴ Region-wide is defined as the metropolitan planning area (MPA) boundary. An interactive map gallery which includes the MPA can be found at: <http://drcmetro.maps.arcgis.com/apps/webappviewer/index.html?id=d83c2455ea10433bb2d6901dd1f4f564>

these communities may be a result of recent funding allocation programs to emphasize travel options, transportation safety considerations, and social equity as criteria for transportation investments.⁵ Additionally, ODOT's reorganization of the Highway Safety Improvement Program (HSIP) which was limited to certain facilities, to the All Roads Transportation Safety (ARTS) may have also influenced the minor VMT changed projected. However, the assessment should note, absolute exposure to VMT (i.e. # of VMT) experienced in different parts of the region, including in areas with historically marginalized and focused historically marginalized communities, can vary.

Overall, the 2018-2021 MTIP investments projected only minor changes in VMT for the region and in areas with historically marginalized communities and focused historically marginalized communities. While the projected VMT in historically marginalized communities and focused historically marginalized communities saw a projected decrease, the exposure to VMT will likely be experienced as incremental or unchanged by these communities.

⁵ The 2019-2021 Regional Flexible Fund and the 2019-2021 Region 1 Enhance Non-Highway allocations incorporated criteria pertaining to travel options, transportation safety, and equity.

Memo

Date: March 28, 2017
To: 2018 RTP Transportation Safety Technical Work Group
From: Lake McTighe, Senior Transportation Planner
Subject: Regional Transportation Safety Action Plan, Annotated Table of Contents

This memo provides a draft annotated table of contents (TOC) for the 2018 Regional Transportation Safety Action Plan (RTSAP). Metro is seeking input on the TOC from the RTP Transportation Safety Technical Work Group, specifically:

1. Does the organization and sequence make sense?
2. Are any sections/ topics missing?
3. Does it make sense to use regional Emphasis Areas?
4. Does it make sense to focus primarily on Metro/ regional actions, with the option of including local and state actions?
5. Do the RTP Goals and Objectives need to be updated?
6. Does the RTSAP and the RTP need policies (in addition to the safety target) that are specific to safety? Should the RTP have a section dedicated to safety?

*Please note that crash data for 2011-2015 is still being analyzed; as the RTSAP will be data driven, any findings/ emphasis areas/ actions/ etc. are for discussion purposes and are subject to change.

DRAFT Table of Contents

Regional Transportation Safety Action Plan

Foreword

- Describes that the plan was updated as part of the 2018 RTP with federal funding.
- Describes the role of regional government in transportation safety planning – uniting the region’s elected officials, planning professionals and communities with a common vision of making the region a safe place to travel, with a goal of zero deaths and severe injuries.
- Include reference to 23 USC 409, prohibition of the discovery or admission of crash and safety data from being admitted into evidence in a federal or state court proceeding.

Letter from the Metro Council or Planning Director

Executive Summary

Summarizes the main findings and recommendations of the RTSAP.

- Describe critical safety problem facing the region – major public health and equity issue
- Describe what the RTSAP is, including federal safety performance measure requirements
- Vision Zero 2035 target

- Key findings from data
- Map of High Injury Corridors with historically marginalized communities
- Emphasis Areas and key recommended actions

Introduction

The Introduction puts the plan into context and provides key background information.

Purpose of the plan

- Role of the region in transportation safety – coordinating, leading, data, consistency, regional planning, funding
- Purpose of the plan is to provide a strategy to reduce, and ultimately eliminate, traffic deaths and severe injuries in the region.
- Describe and address transportation safety at the regional level and to identify specific actions that can be implemented by Metro in coordination with local and state partners, including: track and analyze crash data at the regional level; identify regional safety trends; identify regional emphasis areas; identify regional strategies, identify actions that Metro can take to support implementation of the strategies.
- Geographic extent of plan

Engagement

Describes the engagement activities informing the update of the RTSAP.

- Regional Transportation Safety Technical Work Group/ Equity Work Group
- Technical and Policy Advisory Committees
- Quick Polls
- Regional Leadership Forums
- Media stories
- Public review of plan and 2018 RTP

Organization of the RTSAP

Describes the organization and different sections of the plan.

Federal context

- Higher number of deaths and serious injuries than peer countries
- Transportation safety priority
- Goal of zero deaths – Toward Zero deaths
- Highway Safety Improvement Program

State context

- Rate of fatal and severe crashes declining
- Adopted TSAP – target zero by 2035 – emphasis areas

Regional context

- Increasing pedestrian deaths
- Growing population and jobs – more VMT, more travel
- Equity
- Aging population
- Adopted Plans, Goals, and Policies

Local context

- Counties and cities developing transportation safety action plans
- Portland leading the way with Vision Zero

Section 1: Regional Safety Goals, Targets and Objectives

This section provides the regional policy context for the RTSAP. It includes adopted regional goals and objectives related to safety. It describes the

2018 RTP Safety Goals and Objectives

Highlights the RTP Goals and Objectives directly related to transportation safety.

- Six Desired Regional Outcomes: Safe and Reliable Transportation
- Outcomes based framework: Equity, Environment, Economy
- **Goal 3:** Expand Travel Choices
 - Objective 3.1 Travel Choices: Achieve modal targets, reduced reliance on auto and drive alone trips
 - Objective 3.2 Reduce VMT per capita
 - Objective 3.3. Equitable Access and Barrier Free Transportation: Affordable and equitable access to travel choices
- **Goal 5:** Enhance Safety and Security
 - Objective 5.1 Operational and Public Safety: reduce fatal and severe crashes for all modes of travel.
- **Goal 7:** Enhance Human Health
 - Objective 7.1 Active Living: Provide safe, comfortable and convenient transportation options that support active living and physical activity to meet daily needs.
- **Goal 8:** Ensure Equity
 - Objective 8.1 Environmental Justice: Ensure benefits and impacts of investments are equitably distributed by population demographics and geography.

Vision Zero

Describes Vision Zero and why the region is using the Vision Zero framework and target for 2035. In the Portland metropolitan region Vision Zero provides a framework that is beyond a target and a program.

- Changing the way we think about transportation safety
- Focus on fatalities and serious injuries
- Design a transportation system that takes human mistakes into account

- Saving lives saves money

Communities across the US are using the Vision Zero or Towards Zero frameworks and targets because the traditional approach to traffic safety is not working. For example, if the U.S. had matched safety trends in peer countries from 1994 to 2015, the reduction in annual traffic deaths would have been significant.

- US 14% reduction from 1994
- Canada 43% reduction from 1994: 12,000 fewer deaths/year
- United Kingdom 53% reduction from 1994: 18,300 fewer deaths/year
- Germany 65% reduction from 1994: 20,700 fewer deaths/year

Vision Zero Target for 2035

Describes the target and annual targets to achieve zero by 2035. Includes graphs to illustrate reaching the target for fatal and severe injuries. Notes that it is consistent with Oregon’s statewide target. Notes cities and counties that have also adopted zero targets.

“By 2035 eliminate transportation related fatalities and serious injuries for all users of the region’s transportation system, with a 16% reduction by 2020 (as compared to the 2015 five year rolling average), and a 50% reduction by 2025.”

Section 2: Summary of Regional Transportation Safety Trends

This section summarizes trends identified in analysis of crash data from 2011-2015 (which will be captured in the 2017 Metro State of Safety Report), and compares to analysis from the 2012 State of Safety Report. Information in this section will inform the Existing Conditions chapter of the 2018 RTP.

Data and Methods

Describes the data used in the analysis, the attributes of the data, and any data limitations. Describes the process Metro used to analyze the data. Provides information and link to the Metro Crash Map.

The State of Safety report presents the findings, identifying trends and relationships of serious crashes with environmental factors including roadway and land use characteristics and serves as the foundation for the RTSP. Crashes are broken down by a number of factors contained in the dataset provided by ODOT. This data was combined with Metro’s mapping database that includes roadway data, such as geometry, traffic volumes, traffic congestion, transit routes, bicycle routes, sidewalk inventory, and spatial land use data. The combined data set allowed for an analysis of the Portland Metropolitan region’s crashes from 2011-2015 relative to the following attributes:

- Roadway classification
- Mode

- Month
- Time of day and lighting
- Weather
- Road surface conditions
- Crash type
- Contributing factors
- Driver’s age and gender
- Seat belt usage
- Number of traffic lanes
- Roadway congestion
- Geography within the UGB (sub-regions, cities, counties, and ODOT Districts)
- People density (population plus employment)
- Urban Land Institute density of services
- Street block density

National and State Trends

Provides an overview of how the region compares to other regions of similar size in the U.S. and how the region compares to Oregon and the U.S. Provides information on race and ethnicity of crashes from national and state data.

- National and Oregon fatalities and serious injuries.
- Correlation between VMT and fatal and serious crashes for Oregon and U.S.
- Out of forty-seven MPOs with populations over 1 million, in the U.S. Portland ranked third to last for annual fatalities per million people. The Portland region had 39 fatalities per million people, 2010 to 2014. Boston was the lowest with 36 fatalities and Jacksonville, Florida was the highest with 133.
- While the Portland metro region is doing better than many other regions in the U.S. crash rates per VMT and per million people are higher today than they were when the first RTSAP was completed in 2012.
- State of Oregon white and non-white crash fatalities and serious injuries, compared to population, using state traffic safety information.

All Crashes

Provides key findings from crash data analysis for all modes and all roadway functional classifications. Examines trends related to VMT and crashes in the region. Will include select graphs and tables from the 2017 Metro State of Safety Report. Include analysis to identify Emphasis Area Overlaps.

- Between 2011-2015 there were 2,442 fatal and severe crashes in the region, and 311 people were killed.
- Crash rates in the region are higher per million residents and per 100 million VMT for 2011-2015, compared to 2007-2009. There were 407 fatal/incapacitating crashes per

million residents and 8.1 per 100 million VMT in 2011-2015 compared to 359 and 5.7 in 2007-2009.

- Dangerous behaviors, contributing factors.
- Correlation between VMT and fatal and serious crashes for region.
- 60% of all fatal and serious crashes are on 6% of the region's streets (high injury corridors)
- 23% of streets on the regional transportation network are a high injury corridor

Surface Streets

- Most common contributing factors to fatal and severe crashes.
- Roadway types with the highest serious crash rate per road mile and per VMT.
- Most common type of crashes for fatal and severe.

Bicycle & Pedestrian

- Most common contributing factors to bicycle and pedestrian crashes.

Section 3: Regional Emphasis Areas

Based on the regional safety trends, assessment of the national, state and local policy context, and lessons learned from Vision Zero efforts elsewhere, this section identifies a set of Emphasis Areas to strategically organize actions to most effectively address the traffic safety problem. Regional policies and funding are focused on Emphasis Areas to provide the greatest reduction in fatalities and severe injuries.

Potential emphasis areas are described below and are based on crash data analysis from the 2012 plan and recent analysis through the High Injury Corridors. Emphasis Areas should be identified through analysis of safety trends. If new trends emerge in from the analysis of the 2011-2015 crash data corresponding Emphasis Areas would be identified.

1- Create Safe Streets

At least 60% of all fatal and severe crashes in the region occur on 6% of all streets in the region. These 6% of streets comprise 23% of the regional transportation network. Focusing investments and policies on the regional High Injury Corridors and Intersections efficiently and effectively addresses the most serious safety issues. Streets and transportation networks should be designed for all people; special focus should be given to streets in communities that have historically been disinvested in. Streets need to be built to account for inevitable human errors. Safe streets require short and long term engineering and capital investments, as well as data-driven based analysis, education around safe behavior and enforcement.

2 - Protect Vulnerable Users

People walking and biking, people with disabilities (need data) and older adults are all more vulnerable to serious traffic injuries and fatalities. National research as shown that people living

in lower income communities and people of color are more vulnerable to fatal and severe crashes, more data analysis is needed at the state and regional level. Strategies for this emphasis area identify ways that the region can protect vulnerable users.

3 - Increase Travel Choices

An increase in VMT per capita is correlated with an increase in fatal and severe crashes. The region has lower rates of fatalities and severe crashes compared to other MPOs in part because VMT per capita are lower. Increasing the range of travel choices, including walking, bicycling and transit are critical to continuing to lower VMT per capita and address safety. However, many people are reluctant to walk or bike because of safety issues.

4 - Prevent Dangerous Driving

Dangerous behaviors, such as alcohol and drugs, aggressive, distracted driving, and speed are a major contributing factor to fatal and severe crashes. Focusing enforcement actions on these behaviors as opposed to less dangerous behaviors is essential. Strategies and actions must not disproportionately impact people of color or people with low incomes.

5 - Engage and Educate

Vision Zero requires active participation from everyone in the region. This emphasis area focuses on shifting thinking and actions. Providing consistent and clear data is important. Keeping decision makers engaged around safety. Involving the community. Providing information.

Section 4: Regional Strategies and Actions

This section describes regional strategies and actions that Metro can take to support local and state efforts. Strategies will be drawn from the Safety Work Group, the 2012 Metro Regional Transportation Safety Plan, Portland Vision Zero Action Plan (2016), Clackamas County Transportation Safety Action Plan (2013), Oregon Transportation Safety Action Plan (2016), Hillsboro Transportation Safety Action Plan (2017 draft), Washington County Transportation Safety Action Plan (2017draft), Toward Zero Deaths: A National Strategy on Highway Safety (2014), Vision Zero Network, transportation safety plans from other regions, states and cities, and other resources as they are identified. Strategies in the plan will be broad, similar to goals or policies, and therefore easily incorporated into local transportation safety action plans as needed.

Most actions in the plan will be specific to what steps Metro can take, working in cooperation with partners. Actions of other agencies and organizations may be included if desired. To the extent possible, actions should be measureable and quantifiable. Metro's role in transportation safety is focused on regional funding, planning, convening, coordinating, supporting or introducing state legislation, best practices, research and data, such as:

- Prioritizing safety in regional funding criteria
- Introducing and/or supporting transportation safety legislation
- Convening – regional work group, elected officials – elevating the issue

- Data – analyzing crash data every five years; updating high injury corridors every five years; reporting on crash targets annually, maintaining regional crash map; supporting regional bike/ ped count data
- Improving on safety system performance measures in RTP
- Tracking level of investment in safety at the regional level – RTP
- Strengthening regional policies in the RTP
- Supporting efforts for more safety funding
- Coordinating education and awareness programs with state and local partners
- Best practices in design, research
- Support local plans and actions: development of local TSAPs, Complete Streets policies

Six E's of Safety

Describes the E's of safety and their purpose. Ensuring that all E's are addressed in a safety plan's strategies and actions ensures a more holistic, multi-pronged and comprehensive approach to addressing safety. Equity is introduced as a sixth E. Strategies and actions generally fall under one or more of the E's. Specific strategies and actions are identified to respond to the Emphasis Areas which are identified through analysis of the regional crash data.

1. Engineering and Planning

Regional strategies and actions include developing and providing best practices in safe street design; including and prioritizing safety criteria for regional funding; updating regional transportation safety plans and policies; supporting or introducing legislation that leads to a safer transportation system.

2. Education and Awareness

Regional strategies and actions include supporting or developing coordinated messaging in the region, such as the Oregonians Crossing campaign developed by ODOT and periodically convening elected leaders and community leaders (such as at RTP regional Leadership Forums) around safety to ensure that it continues to be addressed.

3. Emergency Response

Regional strategies and actions include supporting local and state agency efforts to prioritize and fund emergency response.

4. Enforcement

Regional strategies and actions include supporting local and state agency enforcement efforts to focus on enforcement efforts on dangerous behaviors that lead to fatal and severe crashes. Supporting or introducing legislation that eliminates inequities in enforcement, such as racial profiling, or inequitable penalty systems.

5. Evaluation

Regional strategies and actions include using performance measures to assess the success of strategies and actions, updating regional safety plans and crash data analysis.

6. Equitable Approach and Engagement

Strategies and actions include supporting local and state agency efforts to recognize the demographic equity impacts of transportation safety funding; improving data collection and analysis of Environmental Justice communities to better understand equity impacts; engaging with historically marginalized communities around transportation safety.

Emphasis Areas Example

Emphasis Area	Regional Strategies	Metro Actions in coordination with Partners	Local / State Actions?	Safety E's met
1. Create Safe Streets	Design streets and transportation networks for all users that are built to account for inevitable human errors. Focus investments and policies on the regional High Injury Corridors	-Provide best practices for safe street design in the Designing Livable Streets regional street design guidelines and tools -Include project design criteria in regional funding opportunities -Prioritize safety projects in regional funding opportunities -Prioritize regional funding investments in the regional High Injury Corridors -Conduct and provide before and after case studies to understand impact		
2. Protect Vulnerable Users				
3. Increase Travel Choices				
4. Prevent Dangerous Driving	-			
5. Engage and Educate				

Section 5: Existing Efforts

Short profile of each of the three counties, TriMet, ODOT, Metro and most of the cities in the region, describing local actions and programs currently underway that are addressing the

emphasis areas with engineering, enforcement, emergency response and education. Draft profiles are in the Policy Framework Report.

Section 6: Measuring Progress

This section describes how progress towards reaching safety targets will be measured.

Overall measure

- Number of people killed and seriously injured in traffic crashes in the region compared to annual targets; by mode, per VMT, and per capita.

System wide performance measures

These measures assess *future of traffic safety* by tracking the level of safety investments in the Regional Transportation Plan and crash risk through exposure to VMT. These measures will change over time as more comprehensive methods, such as a crash prediction model, are developed accounting for more of the crash factors. Both of these measures also assess equity impacts.

- VMT crash risk exposure
- Number, cost and percentage of safety projects in the regional transportation plan

Performance of actions

Measures progress made on each of the actions identified in the plan.

Acronyms

AASHTO	American Association of State Highway and Transportation Officials
DLCD	Department of Land Conservation and Development
FAST ACT	
FHWA	Federal Highway Administration
FMCSA	
FTA	Federal Transit Administration
HSM	Highway Safety Manual
HIN	High Injury Network
HSIP	Highway Safety Improvement Plan
JPACT	Joint Policy Advisory Committee on Transportation
MAP-21	Moving Ahead for Progress in the 21st Century Act
MMLOS	Multi Modal Level of Service
MPA	Metro Planning Area
MPAC	Metro Policy Advisory Committee
MTAC	Metro Technical Advisory Committee NHSTA
RATP	Regional Active Transportation Plan
RTFP	Regional Transportation Functional Plan
RTP	Regional Transportation Plan
RTSP	Regional Transportation Safety Plan
SAFETEA-LU	
ODOT	Oregon Department of Transportation
UGMFP	Urban Growth Management Functional Plan
TPAC	Transportation Policy Alternatives Committee
TSAP	Transportation Safety Action Plan
TSP	Transportation System Plan
VMT	Vehicle Miles Traveled

Definitions

- Complete Street
- Crash
- Equity
- Functional classification – Arterial, Collector, Local street
- Highway Safety Manual
- Highway Safety Improvement Program
- Historically marginalized communities
- KABCO Injury Scale - Injury A/ Severe injury / Incapacitating injury; Injury B/ Moderate injury; Injury C/ Minor injury
- Metropolitan Planning Organizations (MPOs)
- Model Minimum Uniform Crash Criteria Guideline (MMUCC)
- Metro Planning Area Boundary
- Per VMT

- Serious Crashes
- Toward Zero Deaths
- Portland metro region
- Transportation Safety Action Plan (TSAP) is the state of Oregon’s
- Vision Zero

Citations/Bibliography

Provides a bibliography of external resources and cited sources, including Metro reports developed to support the plan.

- Metro RTSP Policy Framework Report
- Metro 2012 State of Safety Report
- Metro 2017 State of Safety Report
- Oregon Transportation Safety Action Plan 2016
- Portland Vision Zero Action Plan
- Vision Zero Network: 9 Components of a Strong Vision Zero Commitment
- Communications Strategies for Vision Zero – Lessons Learned from NYC
- Dangerous by Design 204, Smart Growth America, National Complete Streets Coalition

Appendices

If needed

Acknowledgements

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