



Portland metropolitan area

Traffic fatalities and serious injuries annual performance report

February 2020

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Metro is the federally mandated metropolitan planning organization designated by the governor to develop an overall transportation plan and to allocate federal funds for the region.

The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process assures a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating transportation funds.

Project web site: oregonmetro.gov/safety

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Public service

*We are here to serve the public
with the highest level of
integrity.*

Excellence

*We aspire to achieve exceptional
results*

Teamwork

*We engage others in ways that foster
respect and trust.*

Respect

*We encourage and appreciate
diversity in people and ideas.*

Innovation

*We take pride in coming up with
innovative solutions.*

Sustainability

*We are leaders in demonstrating
resource use and protection.*

Metro's values and purpose

We inspire, engage, teach and invite people to preserve and enhance the quality of life and the environment for current and future generations.

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INTRODUCTION

Signed into law in 2012, the Moving Ahead for Progress in the 21st Century (MAP-21) focused on performance-based planning and programming. Fixing America's Surface Transportation (FAST Act) passed Congress in December 2015, replaced MAP-21, but did not make any major changes to the performance requirements of MAP-21 nor add any new performance measures.

For the first time, MAP-21 established a performance-based planning framework intended to improve transparency and hold state transportation departments, transit agencies and metropolitan planning organizations (MPOs) accountable for the effectiveness of their transportation planning and investment choices, including for safety. The objective of the new framework was to ensure states and MPOs invest federal resources in projects that collectively make progress toward the achievement of the national goals identified. As a result, the legislation established seven national performance goals for the federal-aid highway program and directed the US Department of Transportation (USDOT) to develop performance measures for each goal area. Safety is one of the goal areas. The goal for safety is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

REGIONAL VISION ZERO TARGETS

Metro's 2018 Regional Transportation Plan includes a Vision Zero target of zero traffic deaths and serious injuries by 2035, with a sixteen percent reduction by 2020 and a fifty percent reduction by 2025.

Metro developed annual targets to reach the 2035 Vision Zero target using the same methodology (S-curve) used by the Oregon Department of Transportation in the 2016 Oregon Transportation Safety Action Plan. The S-curve methodology assumes status-quo for a few years after targets are set and then a more rapid decline as reducing fatal and serious crashes is prioritized and policies, plans and programs are fully implemented.

The targets set by Metro in coordination with the Oregon Department of Transportation and other stakeholders are reflected in Metro's 2018 Regional Transportation Safety Strategy adopted by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council in 2018. These targets satisfy requirements established in the 2016 FHWA Final Rule on National Performance Management Measures that Metropolitan Planning



See Metro's [Regional Transportation Safety Strategy](#) for more information about the region's efforts to improve safety.

Organizations (MPOS) establish and report on five safety performance measures. The performance measures are:

1. Number of roadway fatalities
2. Number of roadway serious injuries
3. Roadway fatalities per vehicle miles traveled (i.e., fatality rate)
4. Roadway serious injuries per vehicle miles traveled (i.e., serious injury rate)
5. Combined non-motorized fatalities and non-motorized serious injuries

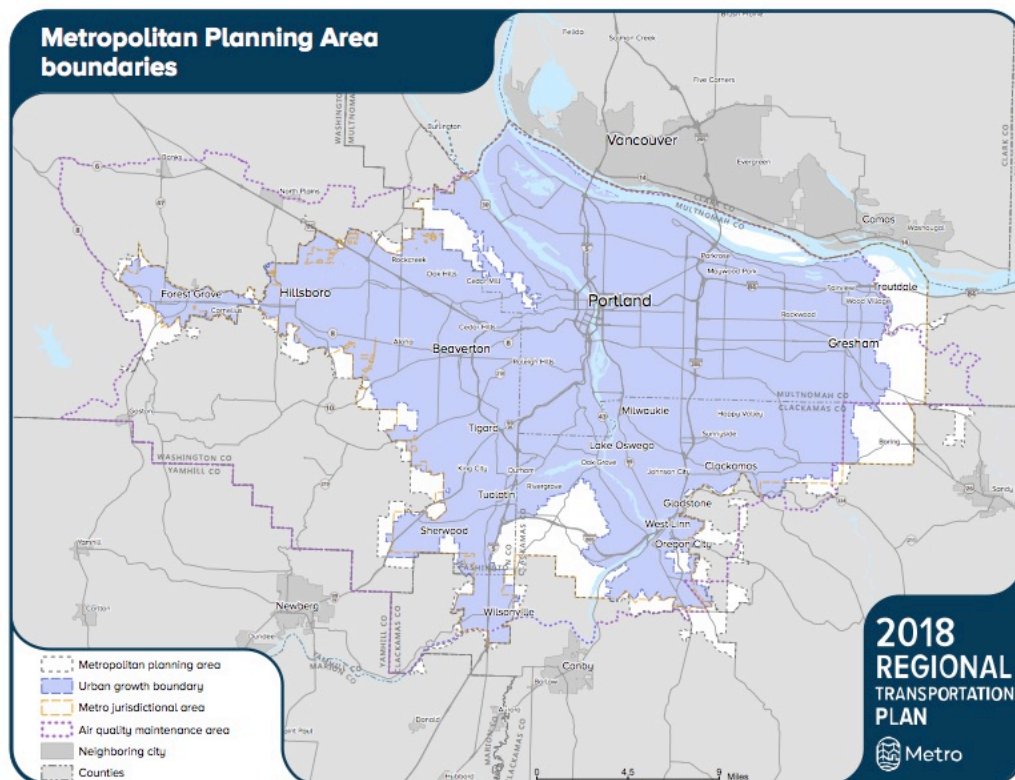
In addition to the federally required safety performance measures, Metro set targets for 20 additional measures. These measures track motor vehicle only crashes, pedestrian and bicycle fatal and serious injury crashes separately and track fatality and serious injury rates per capita in addition to per vehicle miles traveled. The additional measures are:

1. Fatalities per capita
2. Serious injuries per capita
3. Number of roadway fatalities for motor vehicle only crashes
4. Motor vehicle only fatalities per capita
5. Motor vehicle only fatalities per vehicle miles traveled
6. Number of roadway serious injuries for motor vehicle only crashes
7. Motor vehicle only serious injuries per capita
8. Motor vehicle only serious injuries per vehicle miles traveled
9. Number of pedestrian fatalities
10. Pedestrian fatalities per capita
11. Pedestrian fatalities per vehicle miles traveled
12. Number of pedestrian serious injuries
13. Pedestrian serious injuries per capita
14. Pedestrian serious per vehicle miles traveled
15. Number of bicycle fatalities
16. Bicycle fatalities per capita
17. Bicycle fatalities per vehicle miles traveled
18. Number of bicycle serious injuries
19. Bicycle serious injuries per capita
20. Bicycle serious injuries vehicle miles traveled

DATA AND METHODOLOGY

Metro analyzes crash data from the Oregon Department of Transportation to track progress on the safety performance measures. To report on the 2018 targets, Metro calculated the average number and rate of people killed and seriously injured from traffic crashes within the Metropolitan Planning Area (MPA) boundary using 2014-2018 data, and comparing those crashes to the baseline that was set using 2008-2015 data. Additionally, Metro calculated the number of people killed and seriously injured from traffic crashes within Equity Focus Areas.

Metro selects and analyzes crashes that occur within the **Metropolitan Planning Area (MPA) boundary**. The MPA is the geographic area used for MPO transportation planning activities. The boundary encompasses Metro's jurisdictional area, which includes 24 cities and the urban areas of Clackamas, Multnomah and Washington County and lands within the urban growth boundary.



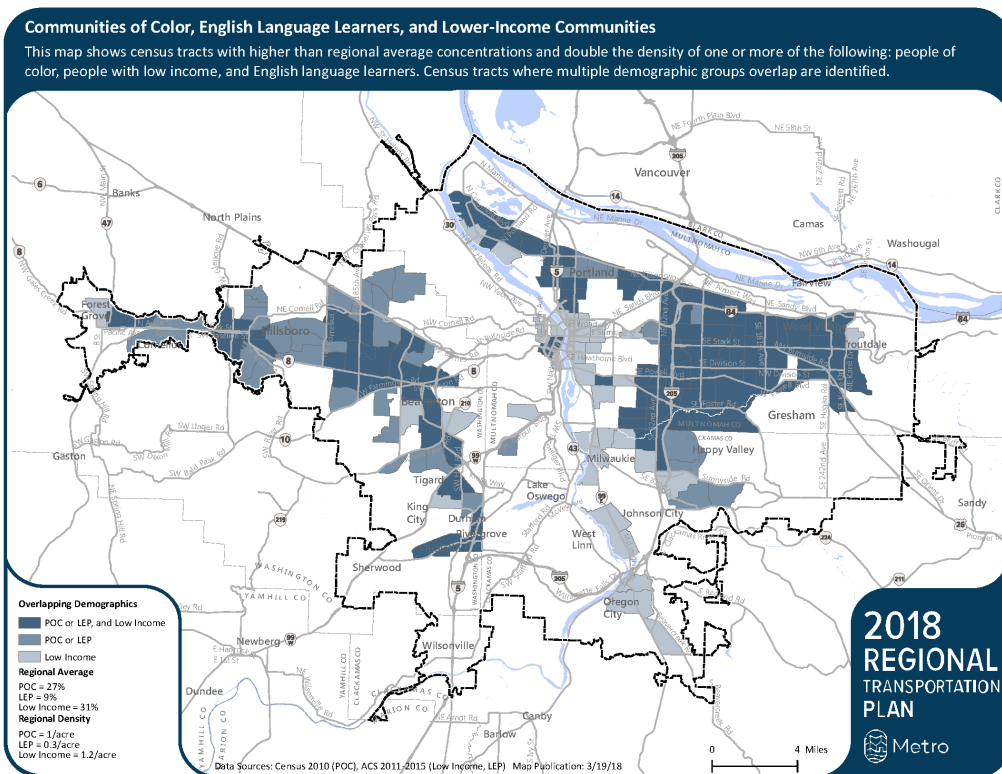
Source: 2018 Regional Transportation Plan

Crash data that has been geo-coded is provided to Metro by the Crash Analysis and Reporting Unit in the Transportation Data Section of the Oregon Department of Transportation (ODOT). Due to the level of quality control and geo-coding needed, the most recent crash data is typically 1.5 to 2 years old.

The number of **vehicle miles traveled (VMT)** within and through the MPA in 2018 was estimated to calculate crash rates per vehicle miles traveled. The estimates represent the sum of all VMT on roadway links within the MPA including trips starting or ending outside the MPA, intrazonal VMT and centroid connector VMT, in Metro's travel forecast model. The intrazonal and centroid VMT are assumed to occur on local streets. The crash rate for VMT is derived by multiplying the average annual number of fatalities or serious injuries (based on five years of data) by 100,000,000 miles and dividing by the five year average vehicle miles traveled for the reporting year.

2018 population estimates used to calculate crash rates per capita were developed using Esri's Business Analyst. The MPA boundary is uploaded to ArcGIS Online to create a dasymetric estimate. Dasymetric estimates are based on a combination of Census block-level data and ancillary proprietary data provided by Esri. The crash rate for population is derived by multiplying the number of fatalities or serious injuries by 100,000 people and dividing by the five year average population for the reporting year.

Equity Focus Areas within the MPA are defined as Census tracts with higher than regional average concentrations and double the density of one or more of the following: people of color, English language learners, and/or people with lower income. Most of these areas also include higher than regional average concentrations of other historically marginalized communities, including young people, older adults and people living with disabilities. Equity Focus Areas are identified in the [2018 Regional Transportation Plan](#). The methodology to define the Equity Focus Areas is described in [Appendix E](#) of the plan.



Source: 2018 Regional Transportation Plan

PROGRESS TOWARDS SAFETY TARGETS

Metro set ambitious targets in the 2018 Regional Transportation Plan: a sixteen percent reduction in fatalities and serious injuries by 2020, a fifty percent reduction by 2025 and zero fatalities and serious injuries by 2035. To be on track to meet these goals, fatalities and serious injuries needed to decline 7 percent from the base year (2015) to the target year (2018). However, fatalities increased 17 percent, and serious injuries increased 10 percent.

The greater Portland region did not meet any of the five safety targets the region set for the federal transportation performance measures or improve over the baseline from 2015. The only safety targets the region met are for number of serious bicycle injuries and serious bicycle injuries per 100 thousand people. Based on the results of the performance measures, the region is not on track for achieving its Vision Zero goal. See **Table 1**.

- The annual average number of fatalities increased from 62 in 2015 to 75 in 2018, an increase of 17 percent. Forty-one percent of people killed were pedestrians, up from 35 percent in 2015.¹
- Fatality rates per vehicle miles traveled also increased from 0.6 fatalities per 100 million vehicle miles traveled to 0.7, a 14 percent increase.
- The average annual number of serious injuries increased from 458 in 2015 to 512 in 2018, an increase of 10 percent.
- Serious injury rates per vehicle miles traveled also increased, though not as much as fatalities, from 4.5 serious injuries per 100 million miles traveled to 4.9, an increase of 8 percent.
- The annual average number of non-motorized (pedestrians and bicyclists) fatalities and serious injuries increased from 113 in 2015 to 129 in 2018, an increase of 11 percent.
- In 2015, 21.7 percent of all fatalities and serious injuries were people walking or bicycling. In 2018, 21.9 percent of all fatalities and serious injuries were people walking or bicycling.

¹ Numbers have been rounded.

Table 1: 2014-2018 safety targets and performance

Performance Measure	5-year rolling average			Target achieved?	Better than baseline?	On track to Vision Zero?
	2011-2015 Baseline	2014-2018 Target	2014-2018 Actual			
Number of fatalities	62	58	75	NO	NO	NO
Fatalities per 100 million vehicle miles traveled	0.6	0.5	0.7	NO	NO	
Number of serious injuries	458	426	512	NO	NO	
Serious injuries per 100 million vehicle miles traveled	4.5	4.0	4.9	NO	NO	
Number of non-motorized fatalities and serious injuries	113	105	129	NO	NO	
Fatalities per 100 thousand people	4.0	3.6	4.7	NO	NO	NO
Serious injuries per 100 thousand people	29.5	26.4	31.8	NO	NO	NO
Number of motor vehicle only fatalities	38	35	41	NO	NO	NO
Motor vehicle only fatalities per 100 thousand people	2.4	2.2	2.5	NO	NO	NO
Motor vehicle only fatalities per 100 million vehicle miles traveled	0.4	0.3	0.4	NO	SAME	NO
Motor vehicle only serious injuries	369	343	417	NO	NO	NO
Motor vehicle only serious injuries per 100 thousand people	23.7	21.3	25.9	NO	NO	NO
Motor vehicle only serious injuries per 100 million vehicle miles traveled	3.6	3.3	4.0	NO	NO	NO
Number of pedestrian fatalities	22	20	31	NO	NO	NO
Pedestrian fatalities per 100 thousand people	1.4	1.3	1.9	NO	NO	NO
Pedestrian Fatalities per 100 million vehicle miles traveled	0.2	0.2	0.3	NO	NO	NO
Number of pedestrian serious injuries	56	52	65	NO	NO	NO
Pedestrian serious injuries per 100 thousand people	3.6	3.2	4.0	NO	NO	NO
Pedestrian serious injuries per 100 million vehicle miles traveled	0.5	0.5	0.6	NO	NO	NO
Number of bicycle fatalities	2.2	2.0	3.4	NO	NO	NO
Bicycle fatalities per 100 thousand people	0.14	0.13	0.21	NO	NO	NO
Bicycle fatalities per 100 million vehicle miles traveled	0.02	0.02	0.03	NO	NO	NO
Number of bicycle serious injuries	33	31	30	YES	YES	YES
Bicycle serious injuries per 100 thousand people	2.1	1.9	1.8	YES	YES	YES
Bicycle serious injuries/ 100 million vehicle miles traveled	0.3	0.3	0.3	SAME	SAME	SAME

Source for fatalities and serious injuries: Oregon Department of Transportation annual crash data

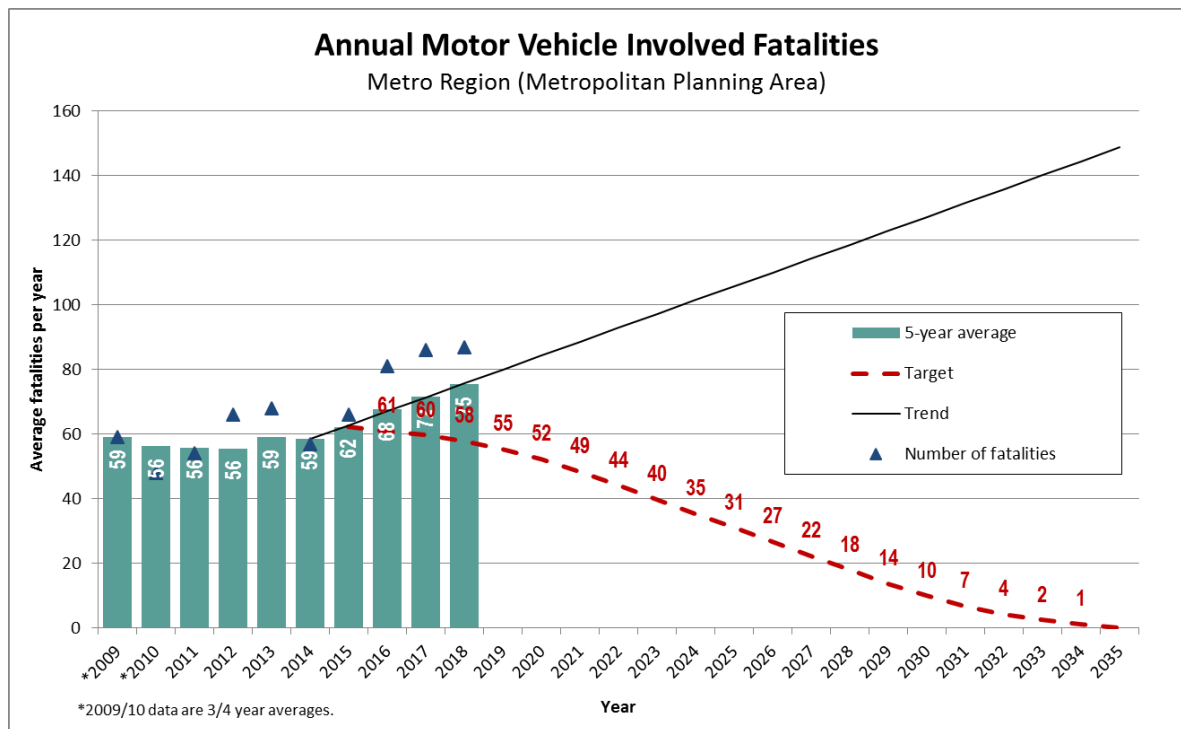
Source for population estimates: Esri 2019 and Metro 2020 Metropolitan Planning Area boundary

Source for vehicle miles traveled: Metro, travel forecast model

Figures 1 through 6 illustrate the annual average fatalities and/or serious injuries for motor-vehicle occupants, people walking and people bicycling from 2009 to 2018, the safety targets, and the current trend.

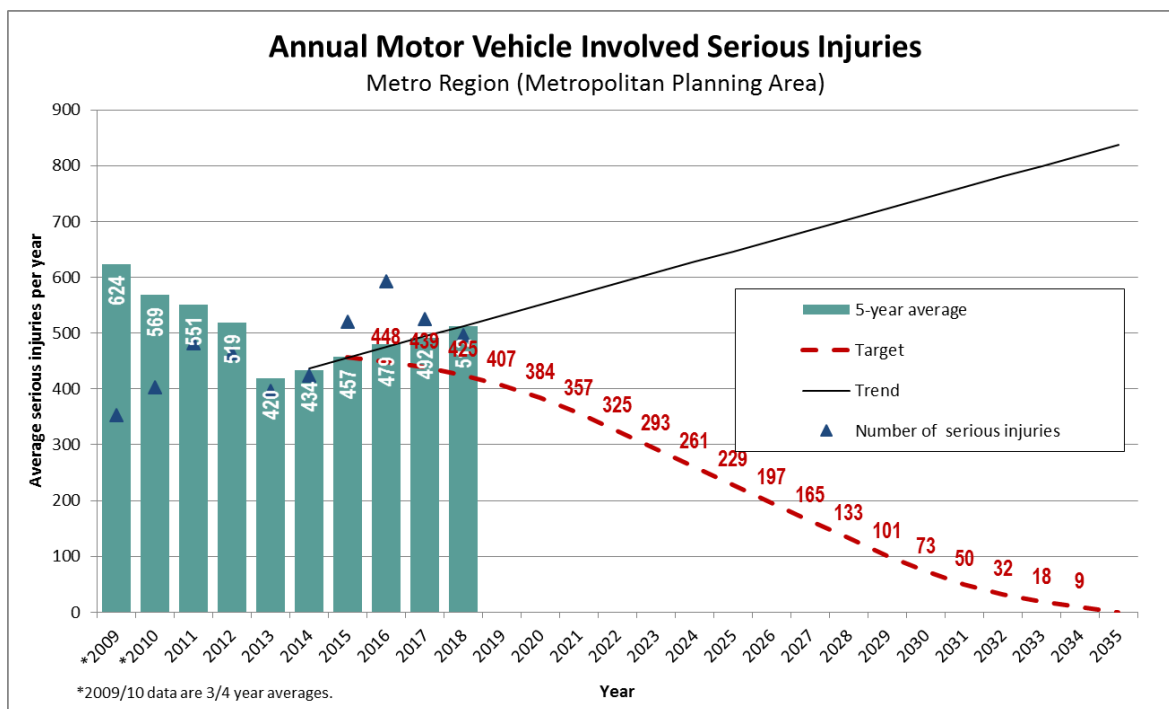
Trend lines are based on five years of annual average fatalities and/or serious injuries. The trend lines for fatalities and/or serious injuries for all modes show an increase, except bicycling, which is flat. The trend lines indicate that unless something changes, the number of traffic related deaths and serious injuries in the greater Portland will continue to increase, or in the case of bicyclists, remain flat.

Figure 1 Motor vehicle involved fatalities, annual average and trend



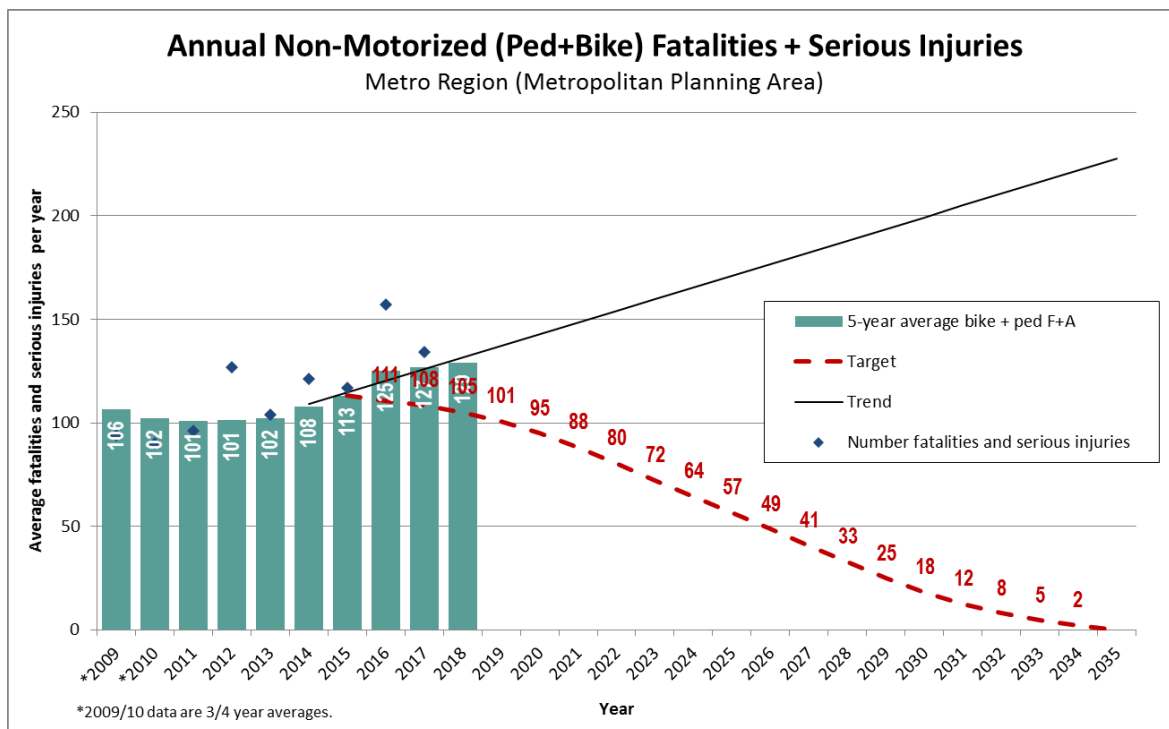
Source: Oregon Department of Transportation; Metro

Figure 2 Motor vehicle involved serious injuries, annual average and trend



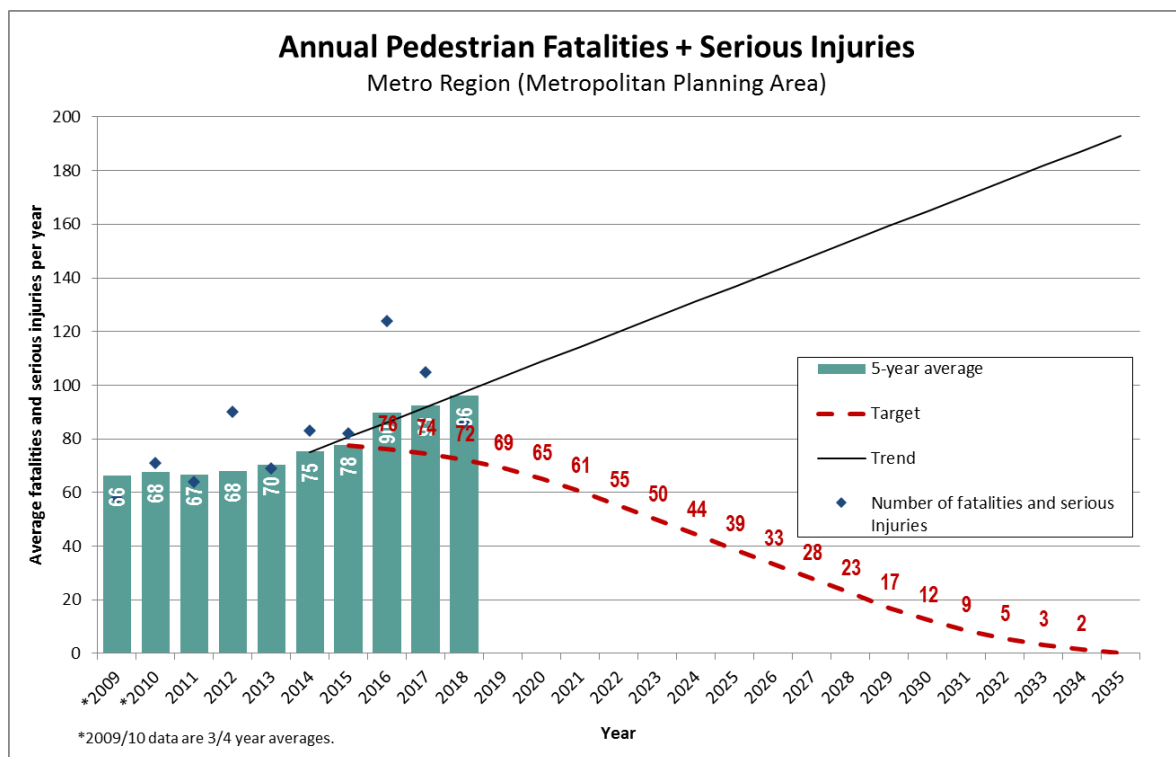
Source: Oregon Department of Transportation; Metro

Figure 3 Non-motorized (Ped+Bike) fatalities and serious injuries, annual average and trend



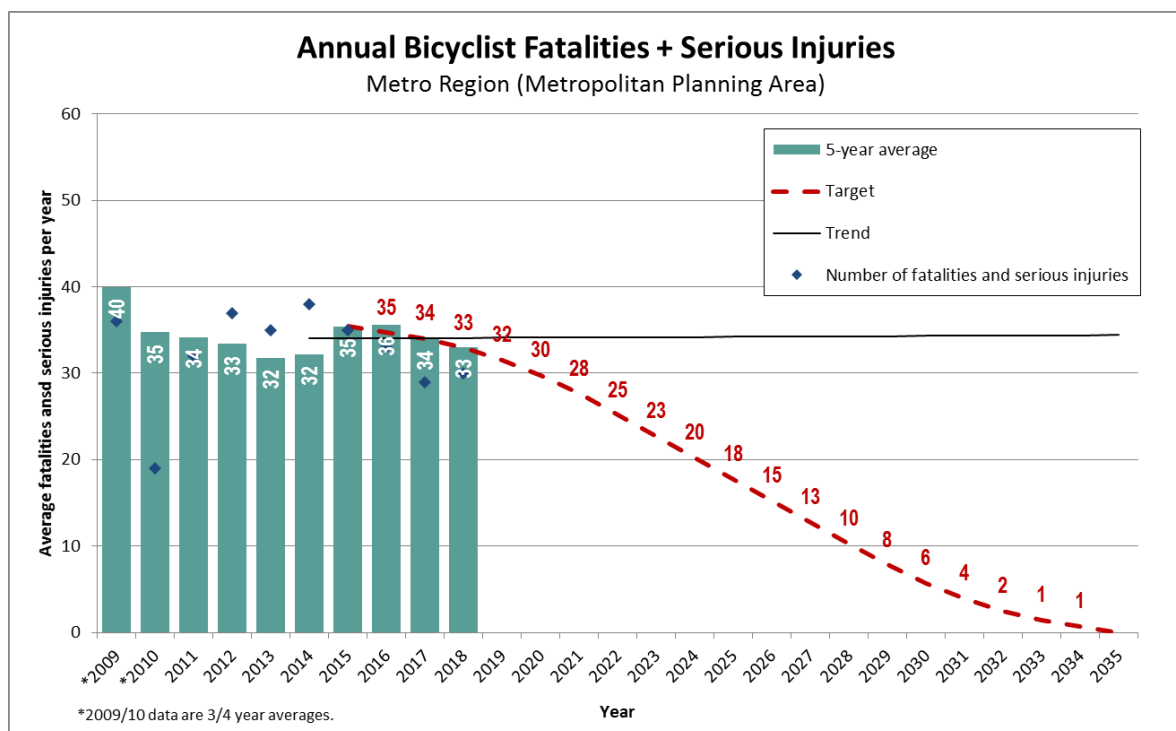
Source: Oregon Department of Transportation; Metro

Figure 4 Pedestrian fatalities and serious injuries, annual average and trend



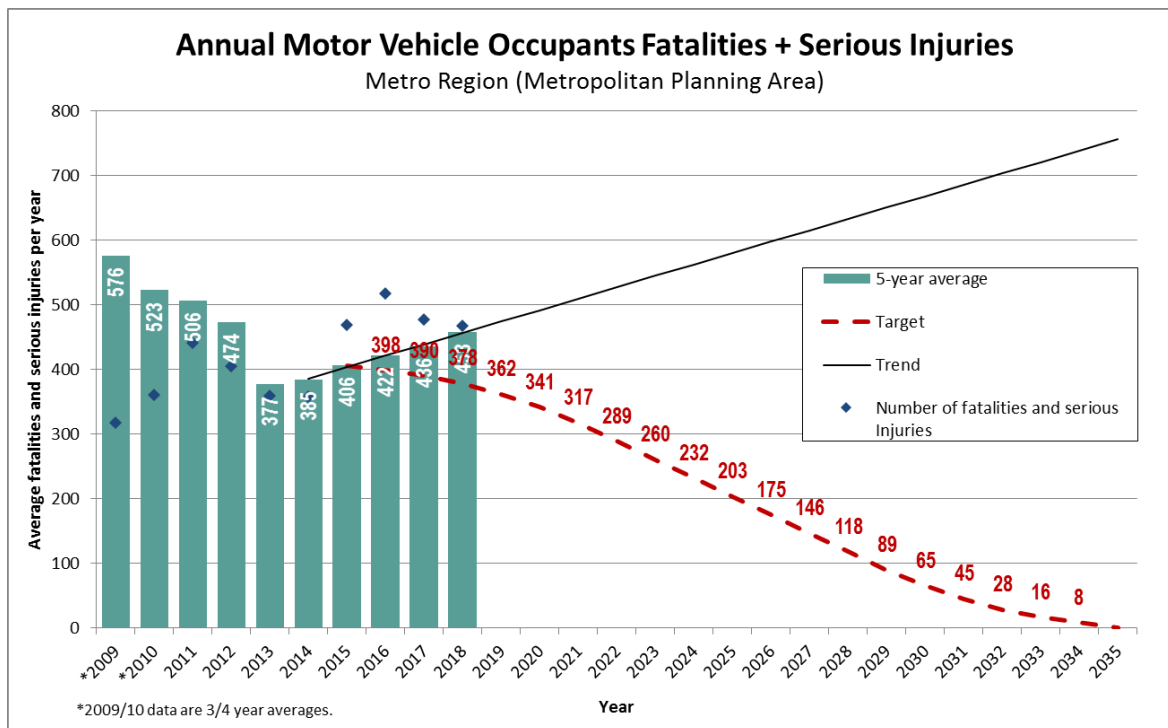
Source: Oregon Department of Transportation; Metro

Figure 5 Bicyclist fatalities and serious injuries, annual average and trend



Source: Oregon Department of Transportation; Metro

Figure 6 Motor vehicle occupant fatalities and serious injuries, annual average and trend



Source: Oregon Department of Transportation; Metro

Fatal and serious crashes in Equity Focus Areas

In addition to setting and tracking overall regional performance measure targets, Metro tracks the percent of fatal and serious crashes in Equity Focus Areas identified within the Metropolitan Planning Area (MPA).² Crash data available to Metro does not include the race or ethnicity of victims of traffic crash victims. Therefore, Metro analyzes crash data by Equity Focus Areas defined in the 2018 RTP. Equity Focus Areas have higher than regional average concentrations and double the density of one or more of the following: people of color, English language learners, and/or people with lower income.

In 2018, 56 percent of the region's population lived within an Equity Focus Area. To better understand if there is a disproportionate impact of fatal and serious crashes to people living within Equity Focus Areas, we compare the percent of the region's population living within Equity Focus Areas to the percent of average annual fatal and serious crashes for all modes, and for pedestrian fatalities, in those areas. Based on the data, people living in Equity Focus Areas appear to suffer from a higher number of serious injury crashes and pedestrian fatalities. While 56 percent of the population lives within the Equity Focus Areas, 64 percent

² Equity Focus Areas are identified in the 2018 Regional Transportation Plan. The methodology to define the Equity Focus Areas is described in Appendix E of the plan.

of pedestrian fatalities occur in these areas and 64 percent of all serious injuries from traffic crashes occur in these areas.

Table 2: Fatal and serious injury crashes in Equity Focus Areas compared to region

Geographic Area	2018 Population	Average Annual Fatalities 2014-2018	Average Annual Serious Injuries 2014-2018	Average Annual Pedestrian Fatalities 2014-2018
Region (Metropolitan Planning Area)	1,658,681	75	512	129
Within an Equity Focus Area that have above regional average concentrations and double the density of people of color, people with low income and/or people with limited English proficiency ³	928,861 (56% of the total population live in the Census tracts designated as Equity Focus Areas)	42 (55%)	325 (64%)	82 (64%)

Source for population estimates: Esri 2019 and Metro 2020 Metropolitan Planning Area boundary
Source for Equity Focus Areas: 2010 Census (for people of color); ACS 2011-15 (for low-income and limited English proficiency)
Source for fatalities and serious injuries: Oregon Department of Transportation

³ Sixty-one percent of the region's people of color population, and 71 percent of the Black population, live in Communities of Color Equity Focus Areas.

If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we’ve already crossed paths.

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