

# Performance Based Planning

## MAP-21/FAST Act Requirements

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- Statewide and Non-Metropolitan, Metropolitan Transportation Planning (“Planning Rule”)
- Performance Management Measures
  - » **Highway Safety Improvement Program (PM1)**
  - » Pavement and Bridge Condition Measures (PM2)
  - » System Performance, Freight Movement, and CMAQ Measures (PM3)
  - » **Transit Asset Condition**
  - » Transit Safety Plan

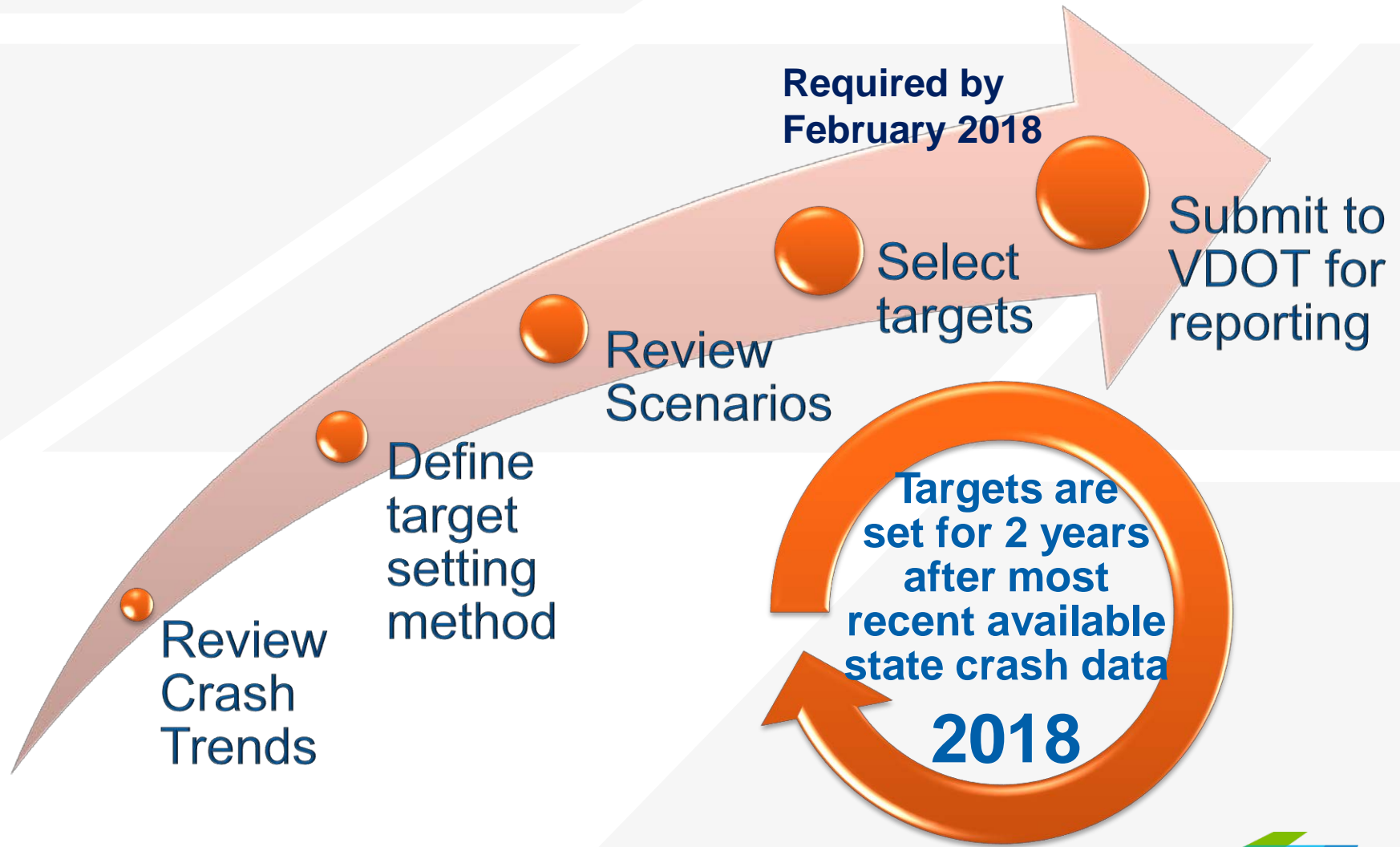
Set MPO targets by Nov. 2018

# Safety Target Setting

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- Requirements (23 CFR 490)
  - » MPOs will establish targets for the same five safety performance measures for **all public roads** in the MPO planning area within 180 days after the State establishes each target (Feb., 2018)
  - » The targets will be established in coordination with the State, to the maximum extent practicable
  - » The MPO can either agree to support the State DOT target or establish a numerical target specific to the MPO planning area. MPOs' targets are reported to the State DOT

# MPO Safety Target Setting Process



# Key Points to Know about MPO Safety Performance Targets

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All MPOs must set a target for each of the five Safety Performance Measures

MPOs may adopt and support the State's target, develop their own, or use a combination

MPO targets **are not** annually assessed for significant progress toward meeting targets

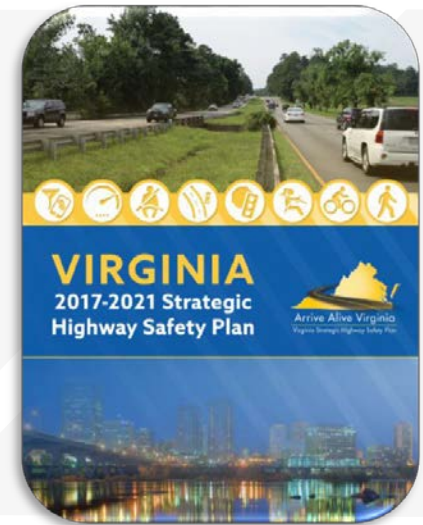
MPO targets are reported directly to VDOT

Source of facts and additional information can be found -  
[https://safety.fhwa.dot.gov/hsip/spm/docs/mpo\\_factsheet.pdf](https://safety.fhwa.dot.gov/hsip/spm/docs/mpo_factsheet.pdf)



# SHSP/HSIP Methodology

- Consistent with the FHWA 5-year rolling average safety performance measures
- Consistent with the 2017-2021 Virginia SHSP annual reduction objectives
- Used percent reductions for 2018 targets



**2%**

annual reduction for fatalities

**3%**

annual reduction for fatality rate

**5%**

annual reduction for serious injuries

**7%**

annual reduction for serious injury rate

**4%**

annual reduction for non-motorized fatal and serious injuries



# Target Setting Tools

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- VDOT developed online data tool
  - » MPO Boundaries
  - » Urban Areas
  - » Jurisdictions
  - » Non-Motorized Crashes
- Provides total annual crashes and persons by severity and by rate (per 100 million VMT)
- Enables data review and trend testing to inform target setting

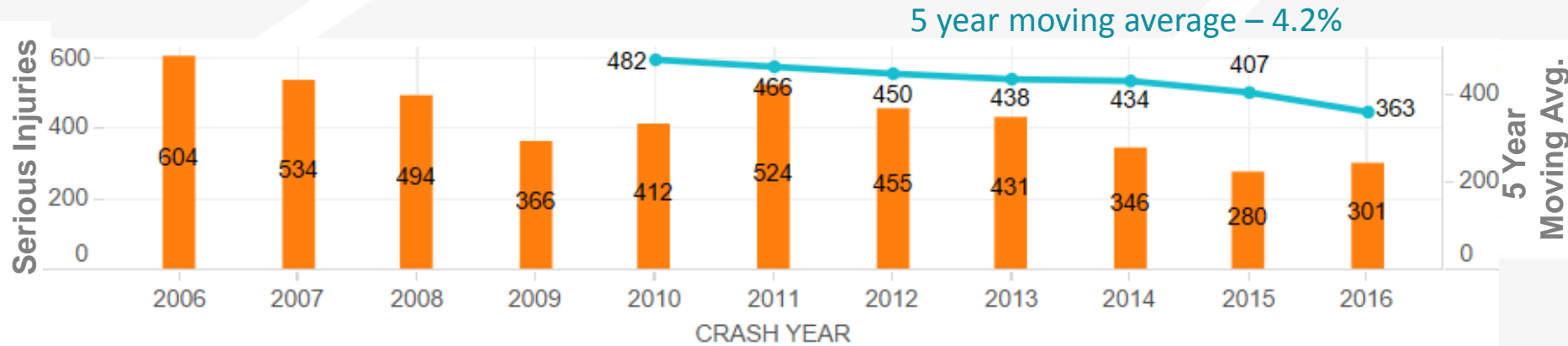
# Regional Safety Trends – Fatal and Serious Injuries (people)



**VDOT Target** **2%** annual reduction for fatalities



**FAMPO Trend** **4%** annual reduction for fatalities (2012-16)

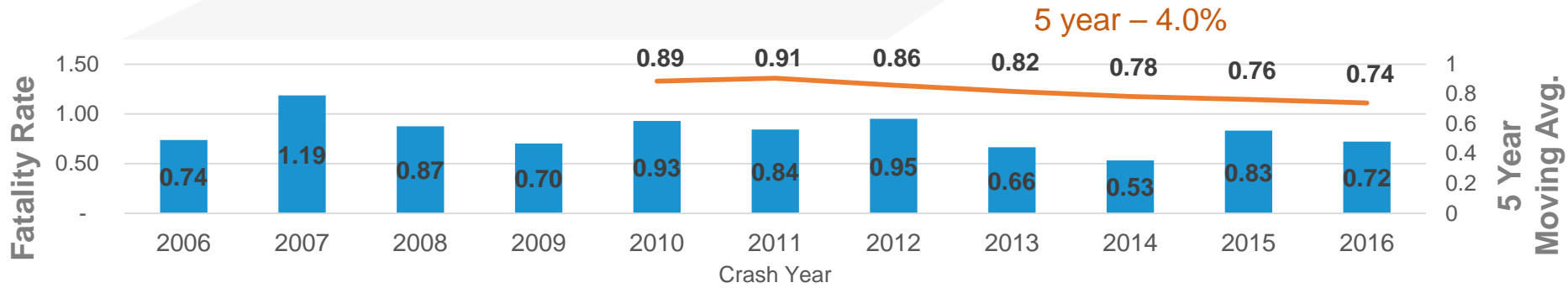


**VDOT Target** **5%** annual reduction for serious injuries



**FAMPO Trend** **7%** annual reduction for serious injuries (2012-16)

# Regional Safety Trends – Fatal and Serious Injury Rate (people)



**VDOT Target** **3%** annual reduction for **fatality rate**



**FAMPO Trend** **3%** annual reduction for **fatality rate (2012-16)**



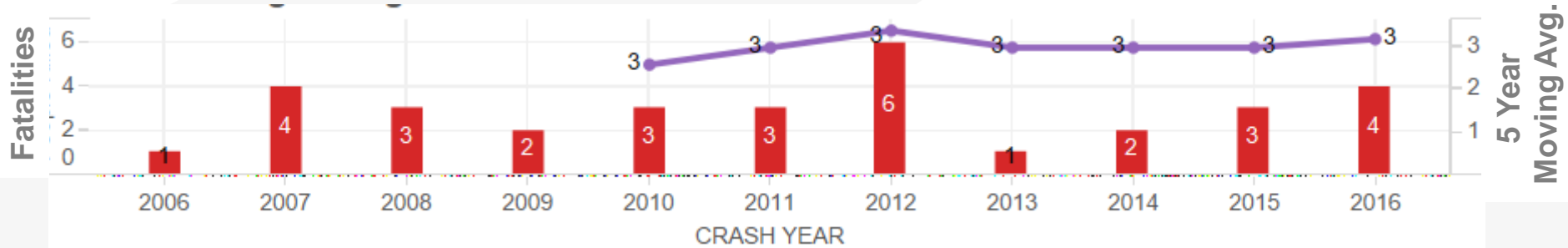
**VDOT Target** **7%** annual reduction for **serious injury rate**



**FAMPO Trend** **11%** annual reduction for **serious injury rate (2012-16)**



# Five Year Rolling Averages – Non-Motorized (people)



**VDOT Target**

**4%**

annual reduction for non-motorized fatal and serious injuries



**FAMPO Trend**

**16%**

annual reduction for non-motorized fatal and serious injuries (2012-16)

Note: The annual reduction for the combined 5-year moving average is 0%.

# Recommendation

## ➤ Adopt Statewide targets

- » FAMPO specific crash and VMT trends are consistent with statewide trends
- » HSIP, SHSP, and project specific safety outcomes in FAMPO region anticipated to support/exceed state targets

**2%**

annual  
reduction for  
**fatalities**

**3%**

annual  
reduction  
for **fatality  
rate**

**5%**

annual  
reduction for  
**serious  
injuries**

**7%**

annual  
reduction for  
**serious  
injury rate**

**4%**

annual  
reduction for  
**non-  
motorized  
fatal and  
serious  
injuries**



# Next Steps

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- Include reference to targets in TIP and LRTP
  - » Describe capital investments, programs, initiatives in the TIP and LRTP that support attainment of the targets
  - » Present current crash trends

# Transit Asset Management (TAM)

## What is it?

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*“A strategic and systematic process of operating, maintaining, and improving public transportation capital assets effectively through the life cycle of such assets.”*

- **Performance** – Transit providers to collect and report data on: rolling stock, equipment, infrastructure, and facilities
- **Targets** – Transit providers to set targets annually for the four measures for the upcoming fiscal year
- **TAM Plan** – Four-year plan for managing capital assets
- **Decision support tools** – Use of analytical tools to develop a prioritized list of transit investments.



# Transit Asset Management Measures

	Performance Measure	Asset Class
Rolling stock (Age)	Percentage of revenue vehicles within a particular asset class that have met or exceeded useful life benchmark (ULB)	40 foot bus, 60 foot bus, vans, automobiles, locomotives, rail vehicles
Equipment - (non-revenue) service vehicles (Age)	Percentage of vehicles that have met or exceeded their ULB	Cranes, prime movers, vehicle lifts, tow trucks
Infrastructure-rail fixed-guideway track, signals, and systems (Condition)	The percentage of track segments, signal, and systems with performance restrictions	Signal or relay house, interlockings, catenary, mechanical, electrical and IT systems
Stations/ Facilities (Condition)	The percentage of facilities, within an asset class, rated below 3 on the TERM scale	Stations, depots, administration, parking garages, terminals

# Transit Asset Management Target Setting

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- MPOs required to adopt initial targets
  - » Standard approach is to adopt operator specific target for each operator within region
    - Applicable providers classified into two tiers
      - TIER 1 – Operates rail or over 100 vehicles – **VRE**
      - TIER 2 – Subrecipient of FTA 5311 funds (less than 100 vehicles) – **FRED**
  - » **Tier 1 providers prepare and implement their individual TAM plan (with targets)**
  - » **Tier 2 providers may participate in a Group Plan (DRPT led, with targets) or develop individual TAM plans**

# Transit Asset Management VRE Targets

(submitted to FTA, January 2017)

Asset Category	Asset Class	Performance Measure	Number	Factor	Performance	Performance Target
Rolling Stock	Commuter Rail Locomotive	Percentage of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	20	20 years ULB	Average 6 years (Range: 5-7 years)	0% exceeded ULB
	Commuter Rail Passenger Coach		86	30 year ULB	Average 8 years (Range: 1-10 years)	0% exceeded ULB
Equipment	Automobiles	Percentage of (non-revenue service) vehicles that have met or exceeded their ULB	6	5 year ULB	Average 5 years (Range: 3-12 years)	50% exceeded ULB
	Trucks and other Rubber Tire Vehicles		N/A			
	Steel Wheel Vehicles		N/A			
Infrastructure	Commuter Rail	Percentage of track segments, signals, and systems with performance restrictions	N/A			
Facilities	Passenger Facilities	Percentage of facilities with a condition rating below 3.0 on the FTA Transit Economics Requirements Model (TERM) scale (1=Poor to 5=Excellent)	18	TERM	4 average	0% rated below 3
	Passenger Parking Facilities		3	TERM	3.7 average	0% rated below 3
	Maintenance Facilities		9	TERM	4 average	0% rated below 3
	Administrative Facilities		2	TERM	4 average	0% rated below 3

Target Summary  
(to adopt)

**0%**  
(rail)

**50%**  
(service vehicles)

**0%**  
(facilities)

# Transit Asset Management

## FRED Targets (DRPT Group Plan submitted to FTA, Jan. 2017)

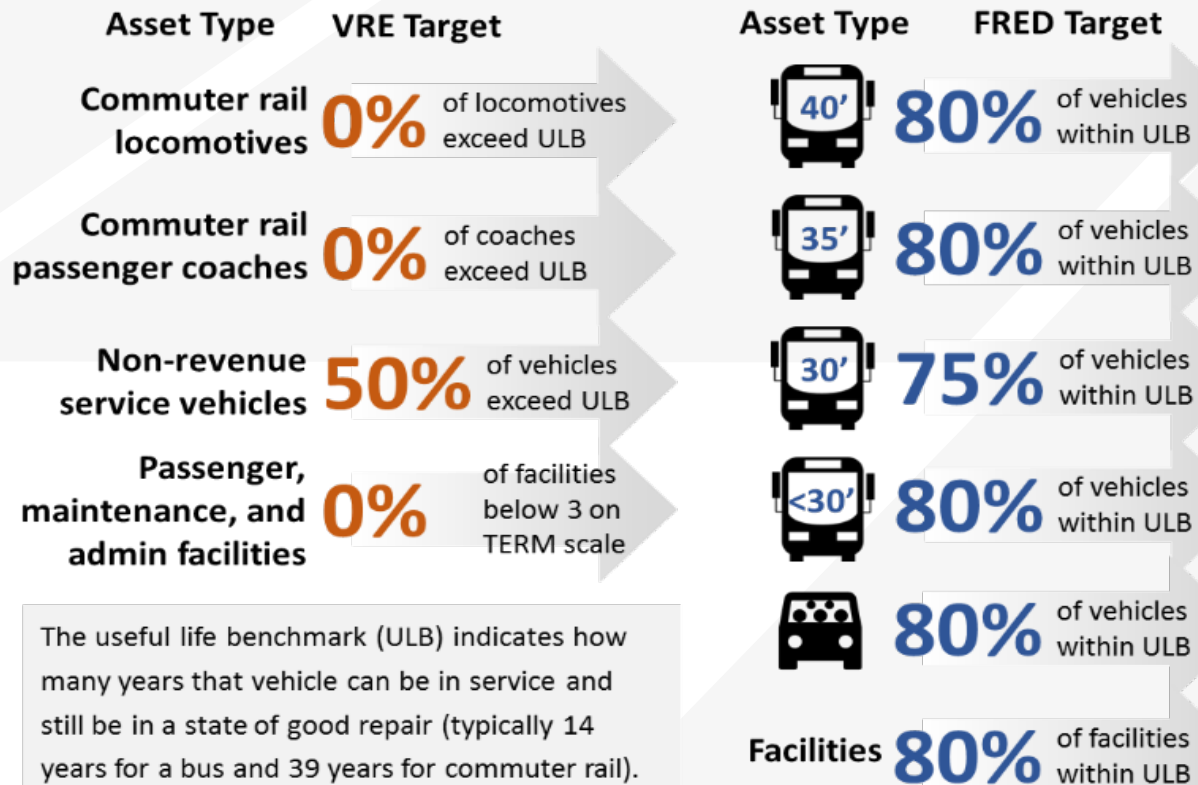
- Tier II providers (including FRED) adopted DRPT targets within the Group Plan
  - » Consistent with current state of good repair levels

Asset	% within ULB	TARGET
40 foot bus	100%	<b>80%</b>
35 foot bus	91%	<b>80%</b>
30 foot bus	79%	<b>75%</b>
< 30 foot bus	97%	<b>80%</b>
Vans	87%	<b>80%</b>
Facilities		<b>80%</b>



# Recommendation

## ➔ Adopt VRE and FRED established targets



The useful life benchmark (ULB) indicates how many years that vehicle can be in service and still be in a state of good repair (typically 14 years for a bus and 39 years for commuter rail).

# Next Steps

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- Include reference to targets in TIP and LRTP
  - » Describe transit capital investments, programs, initiatives in the TIP and LRTP that support attainment of the targets

