



TIP ACTIONS

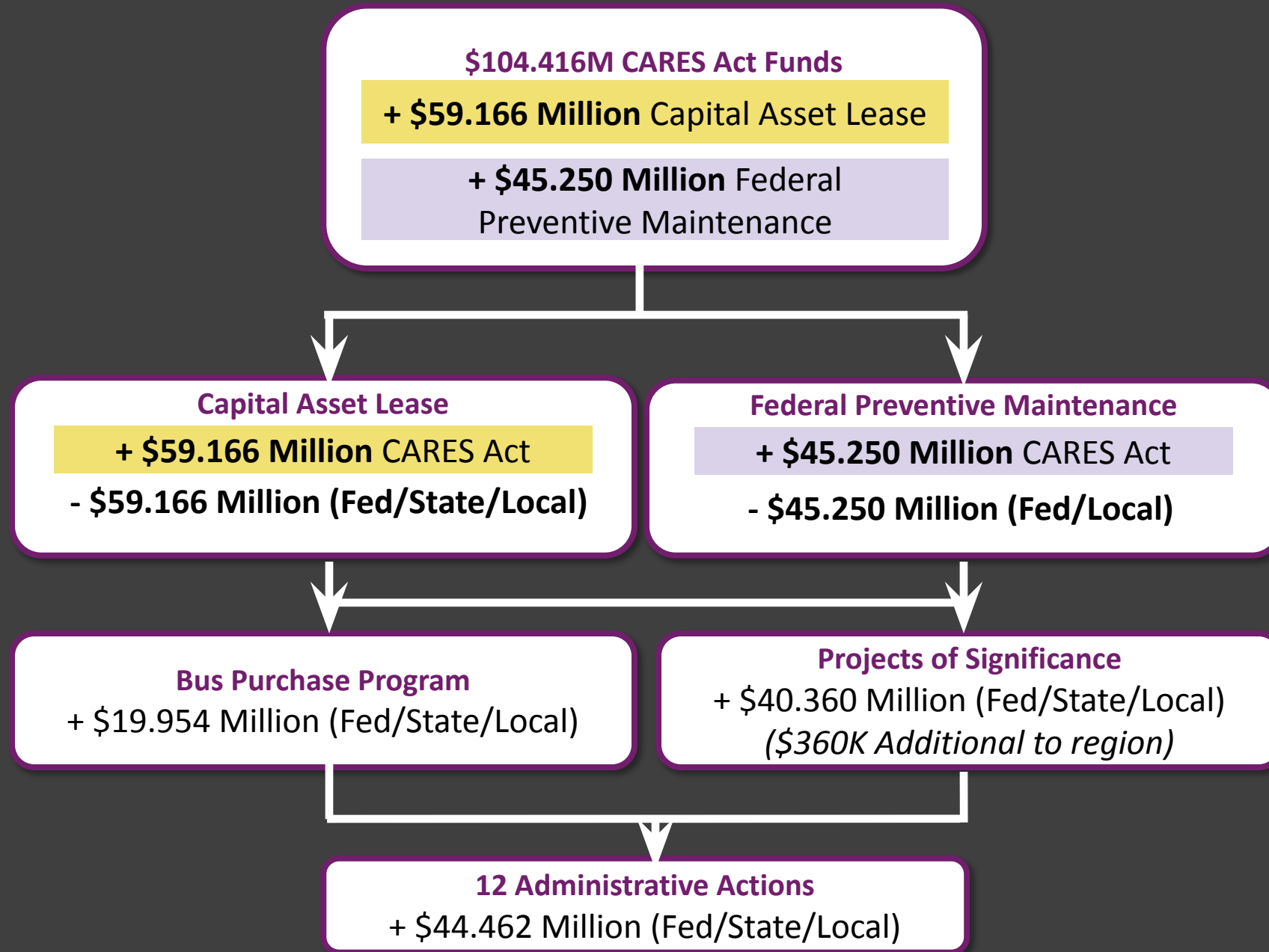
Transportation Improvement Program
New Jersey TIP (FY2020-2023)
Pennsylvania TIP (FY2021-2024)

PHOTO CREDIT: PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

DVRPC Board | February 2021



Additional \$104M CARES Act Funds Added to SEPTA Capital Program



Capital Asset Lease Program

SEPTA | Add New Federal Funding

- **TIP Amendment**
- **Action:** Add \$59,166,000 of CARES Act, remove \$59,166,000 (\$47,333,000 FTA Section 5337/ \$11,451,000 State 1514/ \$382,000 Local) from FY21 CAL phase.
- **Reason:** Utilizing additional CARES Act funding for capital projects presents opportunities for SEPTA to reprogram FY21 capital funds and priorities.
- **Background:**
 - *Due to COVID-19 impacts SEPTA is utilizing \$104,416,000 of its CARES Act funding on two projects.*

Capital Asset Lease Program

SEPTA | Add New Federal Funding

- **Background:**

- *This project provides for the lease payments on communications antennas, copiers, and Amtrak trackage.*
- *SEPTA Amtrak Lease Payments.*
 - *Trenton, Wilmington/Newark and Paoli/Thorndale Regional Rail service, and portions of the Chestnut Hill West, Media/Elwyn, Airport and Cynwyd Regional Rail Lines.*

Federal Preventive Maintenance

SEPTA | Add New Federal Funding

- **TIP Amendment**
- **Action:** Add \$45,250,000 of CARES Act, remove \$45,250,000 (\$36,200,000 FTA Section 5337/ \$9,050,000 Local) from FY21 OP phase.
- **Reason:** Utilizing additional CARES Act funding for capital projects presents opportunities for SEPTA to reprogram FY21 capital funds and priorities.
- **Background:**
 - *Due to COVID-19 impacts SEPTA is utilizing \$104,416,000 of its CARES Act funding on two projects.*

Federal Preventive Maintenance

SEPTA | Add New Federal Funding

- **Background:**

- Provides for operating assistance and preventive maintenance expenses pertaining to activities performed on vehicles and facilities.
- Activities include:
 - Program administration;
 - Repair of buildings, grounds and equipment;
 - Operation of electric power facilities;
 - Maintenance of vehicle movement control systems, fare collection, counting equipment and structures; and
 - Maintenance of general administration buildings, grounds and equipment, and electrical facilities.

TIP ACTION | Proposed - PA



- **Request Board Approval of TIP Amendment**
- **Capital Asset Lease Program** Add \$59,166,000 of CARES Act, remove \$59,166,000 (\$47,333,000 FTA Section 5337/ \$11,451,000 State 1514/ \$382,000 Local) from FY21 CAL phase.
- **Federal Preventive Maintenance** Add \$45,250,000 of CARES Act, remove \$45,250,000 (\$36,200,000 FTA Section 5337/ \$9,050,000 Local) from FY21 OP phase.

CARES Act funds are additional to the region.

SEPTA Bus Purchase Program

SEPTA | Increase Funding

- **TIP Amendment**
- **Action:** Adding \$19,954,000 (FY21: \$9,206,000 FTA Section 5339/ \$2,308,000 State 1514/ \$77,000 Local; FY22: \$2,180,000 FTA Section 5307/ \$4,826,000 State 1514/ \$157,000 Local; FY24: \$960,000 FTA Section 5307/ \$232,000 State 1514/ \$8,000 Local) to the PUR phase.
- **Reason:** Extra funding has allowed SEPTA to advance the purchase of 525 40-foot New Flyer Diesel Electric Hybrid buses.
- **Background:**
 - *This procurement is fully funded and will be completed this year.*

SEPTA Bus Purchase Program

SEPTA | Increase Funding

- **Background:**

- Funding being added in years 2 and 4 allow SEPTA to begin procurement of the next set of bus replacements in FY22.
- Provides for the acquisition of different size buses based upon needs and route characteristics.
- Current bus fleet consists of a variety of buses ranging from 60-foot articulated and 40-foot buses for heavy use routes to 30-foot buses for suburban circulator and contracted service routes.

TIP ACTION | Proposed - PA



- **Request Board Approval of TIP Amendment**
- **SEPTA Bus Purchase Program** Adding \$19,954,000 (FY21: \$9,206,000 FTA Section 5339/ \$2,308,000 State 1514/ \$77,000 Local; FY22: \$2,180,000 FTA Section 5307/ \$4,826,000 State 1514/ \$157,000 Local; FY24: \$960,000 FTA Section 5307/ \$232,000 State 1514/ \$8,000 Local) to the PUR phase.

Projects of Significance

SEPTA | Increase Funding and Add New Project

- **TIP Amendment**
- **Action:** Increase funding by \$40,360,000 (\$36,800,000 FTA Section 5307/ \$360,000 FTA Section 5305/ \$3,096,000 State 1514/ \$104,000 Local) in FY21 for two projects.
- **Reason:** Funding has been freed up by utilizing SEPTA's CARES Act funds for other capital projects.
- **Background:**
 - *NHSL-KOP Rail Extension Value Capture/Multimodal Accessibility Study — \$360K.*
 - *KOP Rail Extension 30% Design — \$40M.*

Projects of Significance

SEPTA | Increase Funding and Add New Project

- **KOP Rail Extension 30% Design – \$40M:**
 - Will extend the existing NHSL four miles into King of Prussia.
 - Provide a high-speed, “one-seat” ride from any station along the NHSL, including the 69th Street Transportation Center in Upper Darby and the Norristown Transportation Center in Norristown.
 - Increase ridership by 6,755 daily trips; less than 40-min. ride from Center City to KOP.
 - Jan 8, 2021 SEPTA and FTA signed the combined FEIS/ROD.
 - Design, construction and acquisition of new rail cars is estimated at \$2 billion.
 - Funding will allow SEPTA to go from 15% Design to 30% Design.

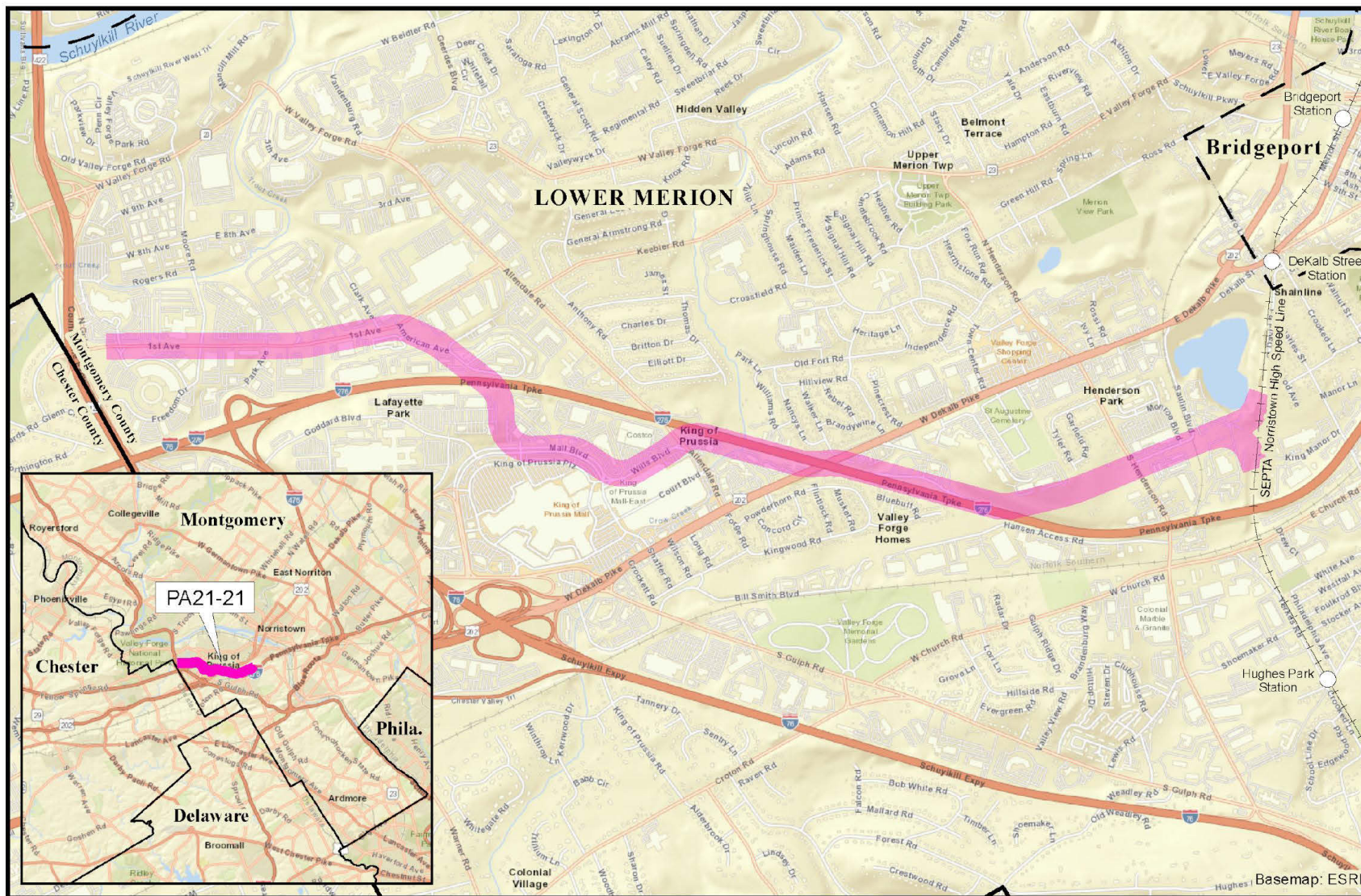
Projects of Significance

SEPTA | Increase Funding and Add New Project

- **Add New NHSL-KOP Rail Extension Value Capture/Multimodal Accessibility Study – \$360K:**
 - Dec. 15, 2020 FTA awarded SEPTA \$360K for pilot program for TOD Planning.
 - Supports FTA's mission of improving public transportation for America's communities by providing funding to local communities to integrate land use and transportation planning with a new fixed guideway or core capacity transit capital investment.
 - Study potential for Value Capture and the recommended multimodal accessibility network for stations.

PA21-21: Projects of Significance

Norristown High Speed Line King of Prussia Rail Extension 30% Design Phase & Value Capture/Multimodal Accessibility Study Project



TIP ACTION | Proposed - PA



- **Request Board Approval of TIP Amendment**
- **Projects of Significance** Increase funding by \$40,360,000 (\$36,800,000 FTA Section 5307/ \$360,000 FTA Section 5305/ \$3,096,000 State 1514/ \$104,000 Local) in FY21 for two projects.
- KOP Rail Extension 30% Design – \$40M.
- Add New NHSL-KOP Rail Extension Value Capture/Multimodal Accessibility Study – \$360K – These are additional to the region.

Safety and Security Improvements

SEPTA | Add New Project to Program

- **TIP Amendment**
- **Action:** Add a new \$585,000 FTA Section 5312 funded Mass Transit Vehicle Air Ventilation and Purification Technologies Evaluation project to the Safety and Security Improvements program for FY21 ERC; increase the FY21 ERC phase by \$1,000,000 (\$800,000 FTA Section 5307/ \$194,000 State 1514/ \$6,000 Local); and increase FY22 by \$2,947,000 (\$2,851,000 State 1514/\$96,000 Local).
- **Reason:** Develop models, test various mitigation strategies, and synthesize into recommendations for minimizing risk of COVID-19; and adjust programming to meet current needs.

Safety and Security Improvements

SEPTA | Add New Project to Program

- **Background:**

- *The FTA 5312 funds are additional to the region.*
- *SEPTA partnering with Drexel University to evaluate air ventilation and surface cleaning technologies in preventing the transmission of COVID-19.*
- *Designed to improve passenger safety and strengthen public confidence to return to mass transit during this public health emergency.*
- *Increase of regular funds is to meet current program needs.*

TIP ACTION | Proposed - PA



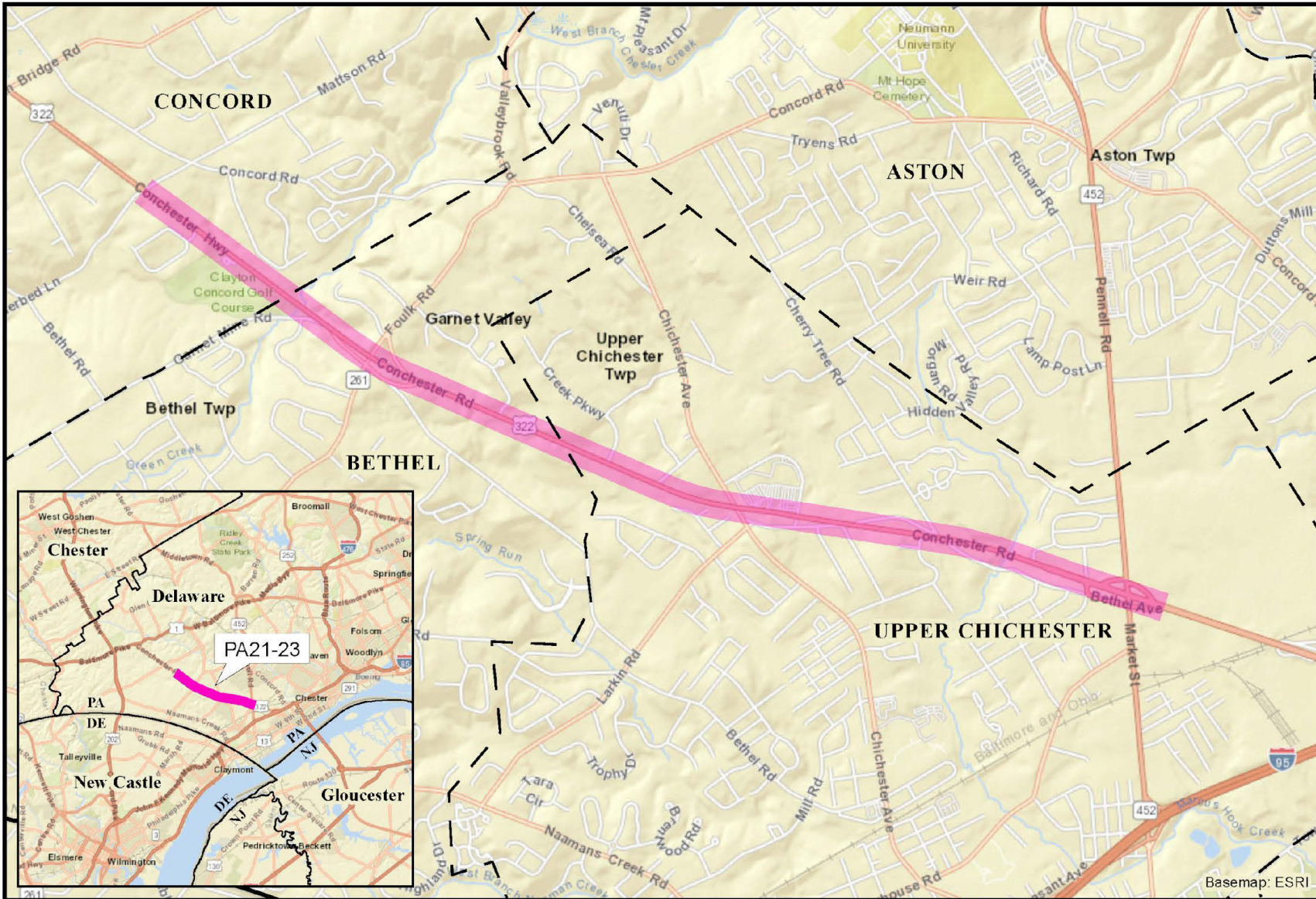
- **Request Board Approval of TIP Amendment**
- **Safety and Security Improvements**
Add a new \$585,000 FTA Section 5312 funded Mass Transit Vehicle Air Ventilation and Purification Technologies Evaluation project to the Safety and Security Improvements program for FY21 ERC; increase the FY21 ERC phase by \$1,000,000 (\$800,000 FTA Section 5307/ \$194,000 State 1514/ \$6,000 Local); and increase FY22 by \$2,947,000 (\$2,851,000 State 1514/\$96,000 Local).

US 322, Featherbed Lane to I-95 (Section 102)

Delaware County | Add ROW Back in to TIP & Reduce CON

- **TIP Amendment**
- **Action:** Add ROW phase back into TIP and reducing CON phase. ROW phase will increase by \$11,354,000 (\$9,083,000 SXF/\$2,271,000 State 581) in FY21 and CON will be reduced by \$8,422,000 (addition: \$5,912,000 STU; remove: \$12,650,000 SXF/\$1,684,000 State 581) in FY24.
- **Reason:** Change in fair market value cost compared to initial project estimate have led to increase ROW costs. CON cost estimate has been updated.
- **Background:**
 - *Additional ROW funding will fully cover ROW costs for Section 102 & 103 property acquisitions.*

PA21-23: US 322, Featherbed Lane to I-95 (Section 102)



Existing 2-lanes will be widened to 4-lanes, with a fifth center turn lane;

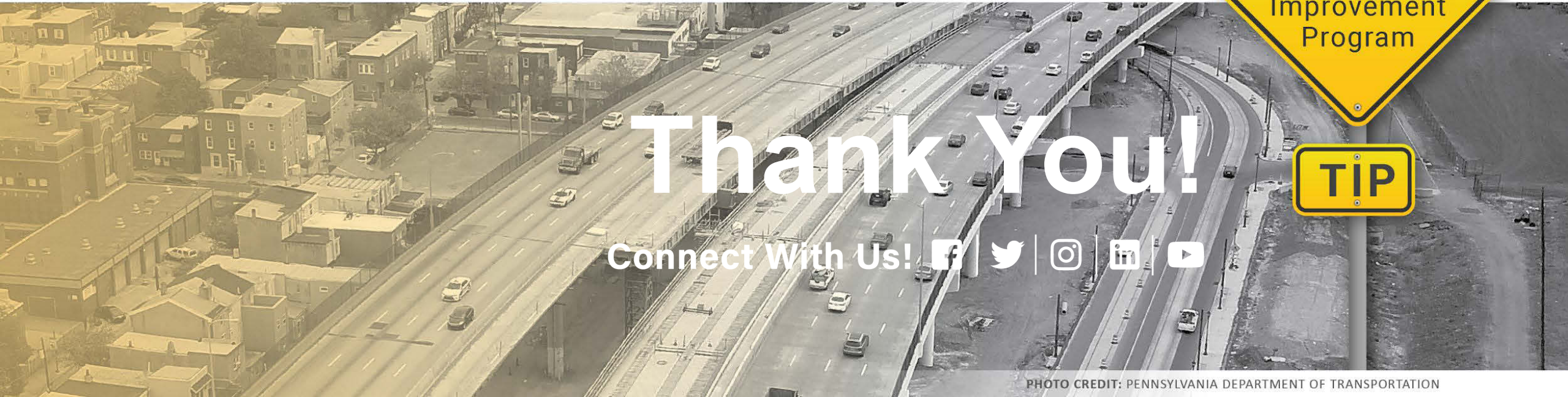
New traffic signal constructed at Garnet Mine Rd & US322 eastbound ramps;

Existing traffic signal at Bethel Road Connector and left turn lanes on US 322 will be reconstructed.

TIP ACTION | Proposed - PA



- **Request Board Approval of TIP Amendment**
- **US 322, Featherbed Lane to I-95 (Section 102)**
Add ROW phase back into TIP and reducing CON phase. ROW phase will increase by \$11,354,000 (\$9,083,000 SXF/\$2,271,000 State 581) in FY21 and CON will be reduced by \$8,422,000 (addition: \$5,912,000 STU; remove: \$12,650,000 SXF/\$1,684,000 State 581) in FY24.



Thank You!

Connect With Us!     

PHOTO CREDIT: PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

www.dvrpc.org/TIP





Preparing Greater Philadelphia for Highly Automated Vehicle Deployment

DVRPC Board | February 25, 2021

Companion Reports

Preparing
GREATER PHILADELPHIA
for
**HIGHLY AUTOMATED
VEHICLE DEPLOYMENT**

Page 43
**What's Already
Happening in
Greater Philadelphia**

SCENARIOS INSIDE

- Delayed Expectations:** Automated vehicle development stalls due to stagnant economy.
- People Power:** Federal government advancing truck platooning, connected vehicles, and automated shuttles.
- Tech in the Driver's Seat:** Automated vehicles are here. Are we ready?
- Inclusive Tech:** Open source principles and federal regulations shape automated vehicles.

DECEMBER 2020



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EXPLORATORY SCENARIOS FOR GREATER PHILADELPHIA

DISPATCHES
from
**ALTERNATE
FUTURES**

DELAYED EXPECTATIONS
A world overcome by climate change and economic slowdown

PEOPLE POWER
Grassroots movement to a more just and sustainable future

TECHNOLOGY IN THE DRIVER'S SEAT
Big Tech takes control

INCLUSIVE TECH
A new equitable economy emerges through open source technologies

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**COVID-19
BREAKING NEWS**
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JULY 2020



working
FUTURES GROUP
GREATER PHILADELPHIA



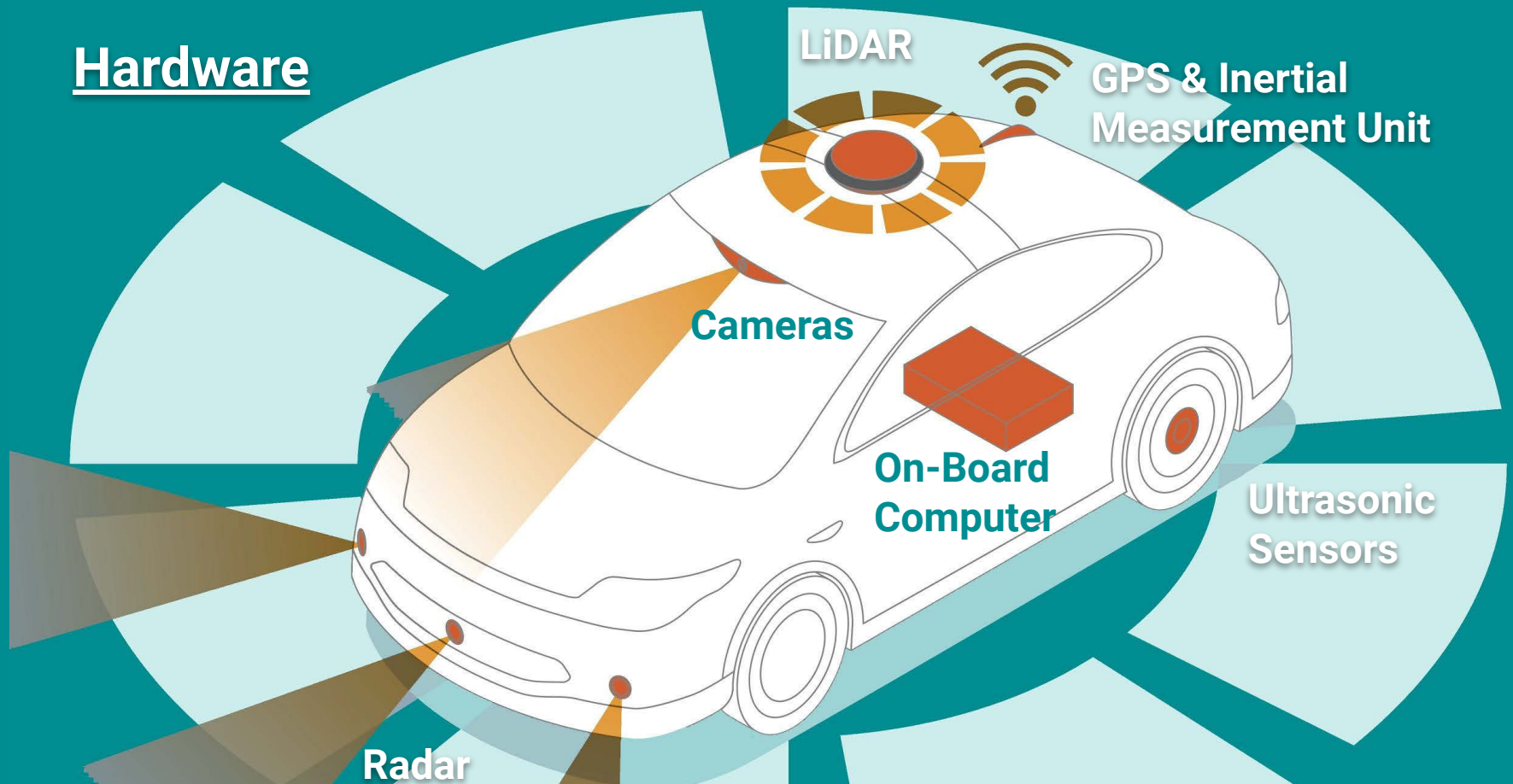
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Merge Ahead



What is an Automated Vehicle?

Hardware



Software

- Advanced Driver Assistance System (ADAS)
- OR -
- Automated Driving System (ADS)

What Does an Automated Driving System Do (Level 4 HAV)?



Operations

1. Precise **location** in high-definition map w/ GPS or inertial measurement unit
2. **Scan** roadway w/sensors
3. **Predict** movement of object that can move
4. **Act** on speed, trajectory, and steering

SAE Automated Vehicle Levels

Partially Automated Vehicles

Highly Automated Vehicles (HAVs)

LEVEL 0

LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

LEVEL 5

You are driving whenever these driver assistance systems are engaged—even if your feet are off the pedals and you are not steering

You must constantly supervise these assistance systems: you must steer, brake, or accelerate as needed to maintain safety

You are not driving when these automated driving features are engaged—even if you are seated in the 'driver's' seat

When the system requests you must drive

These automated systems will not require you to take over driving

These are advanced driver assistance systems (ADAS)

These are automated driving systems (ADS)

Warnings and momentary assistance

Support driver steering **OR** brake / acceleration

Support driver steering **AND** brake / acceleration

Can drive the vehicle under limited conditions and will not operate unless required conditions are met

Can drive the vehicle under all conditions

What does human in the driver's seat have to do?

What do these systems do?

Source: Adapted from SAE

Preparing for HAVs - Key Takeaways

1. Need to better understand uncertainty associated w/HAVs.
2. Level 4 HAVs soon, Level 5 HAVs probably further away.
3. Once deployed, HAVs are likely to:
 - a. Expand the role of the private market in transportation.
 - b. Increase demand for infrastructure investment and further erode the gas tax.
4. The region needs to:
 - a. Articulate a clear vision & strategies for HAV roll out.
 - b. Create new regional partnership(s) to prepare for technology deployment.
5. There are many low-regret strategies that the region can implement now to prepare for HAV deployment.

Development & Deployment Uncertainty

- Safety
- Artificial Intelligence & Reliance on Technology
- Profitable Business Models
- Infrastructure Investment Needs
- Cybersecurity
- HAV Regulations
- Current Events: COVID-19, Black Lives Matter

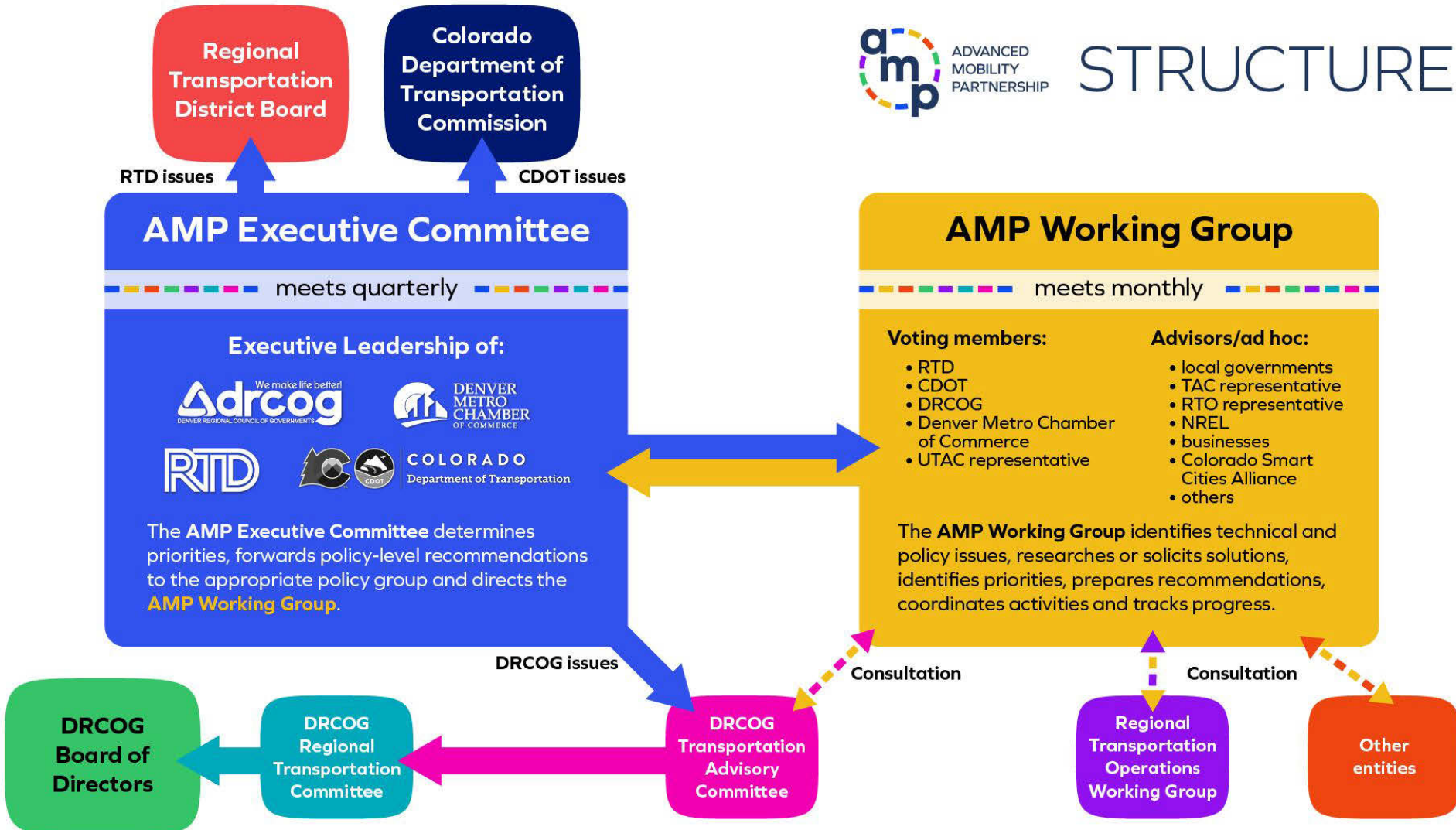
Deployment Outcome Uncertainty

- Economy & Jobs
- Mobility & Congestion
- Energy Use & Greenhouse Gas Emissions
- Urban Vitality / Open Space Preservation
- Transportation Equity
- Redesigned Transportation Network
- Data

Advanced Mobility Partnership



STRUCTURE

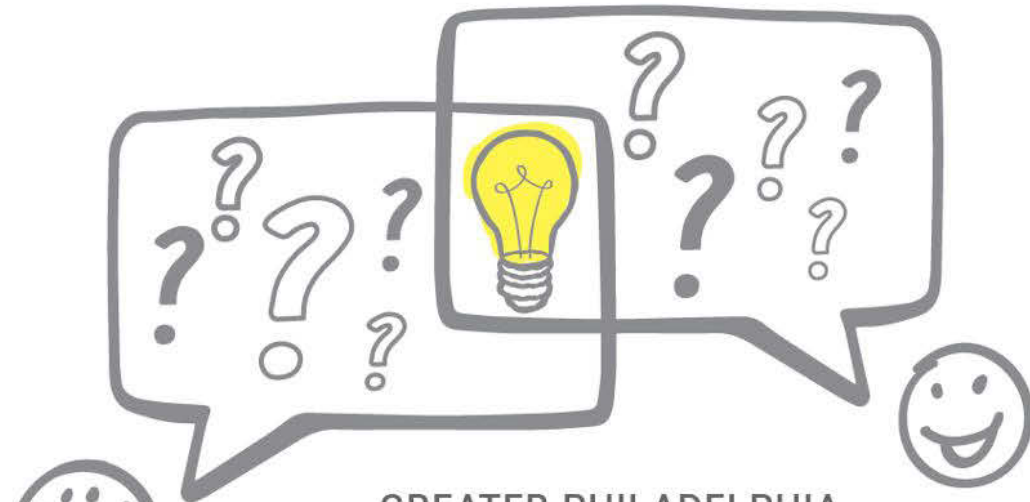


Short-Term Low-/No-Regret Actions

1. Learn from **best practices**.
2. Public **engagement and education**.
3. Work with state DOTs on **plans for safe testing and deployment**.
4. **Prioritize roadway state-of-good repair**.
5. **Reduce speed limits** and pursue other Vision Zero strategies.
6. Use **government procurement** to advance safety and green technologies.
7. **Integrate shared mobility options with transit**.
8. **Pursue transit-first strategies**.
9. **Set requirements to license & renew** private shared mobility services.
10. **Equitably distribute infrastructure improvements**.
11. Work with state and local governments to determine **data** needs, and build local government data management and processing capacity.

Next Steps

- Inform *Connections 2050* Plan development.
- Explore forming a Greater Philadelphia Advanced Mobility Partnership.



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