

















TIP ACTIONS

Transportation Improvement Program
Pennsylvania TIP (FY2019-2022)
New Jersey TIP (FY2020-2023)

Transportation Improvement Program





ADA Ramps 2020 Bucks & Montgomery Counties Various Counties | Advance Construction Phase

- TIP Amendment
- Action: Advance CON funding from the 2nd and 3rd four years of the TIP to FY20 (\$7,500,000 STU/Toll Credit)
- Background:
 - Project will construct Americans With Disabilities Act (ADA) compliant facilities along various state routes in Bucks and Montgomery Counties (496 ramps)
 - Roadways include Bristol Pike, Lincoln Highway, Delmorr Avenue, River Road, Moreland Road, Bustleton Pike, Buck Road, State Road, Otter Street, Trenton Avenue, Oxford Valley Road, and Swamp Road



ADA Ramps 2020 Chester & Montgomery Counties Various Counties | Advance Construction Phase

- TIP Amendment
- Action: Advance CON funding from the 2nd and 3rd four years of the TIP to FY20 and FY22 (\$3,800,000 STU/Toll Credit)
- Background:
 - ADA compliant facilities along various state routes in Chester and Montgomery Counties (252 ramps)
 - Roadways include Main Street and Anderson Avenue, Starr Street and Washington Avenue, Pottstown Pike, West Uwchlan Avenue, Hanover Street, Farmington Avenue and Hanover Street



2019 ADA Ramps Philadelphia

City of Philadelphia | Advance Construction Phase

- TIP Amendment
- Action: Advance CON funding from the 2nd and 3rd four years of the TIP to FY20 in the amount of \$3,962,000 STU/Toll Credit
- Background:
 - ADA compliant facilities along various state routes in the City of Philadelphia (660 ramps)
 - Roadways include Henry Avenue, Bethlehem Pike, Mount Airy Avenue, Easton Road, Girard Avenue, Cheltenham Avenue, Spring Garden Street, 52nd Street, 42nd Street, 65th Street, and more





TIP ACTION | Proposed - PA

Agenda Items 5a, 5b, and 5c

Recommend Board approval of PennDOT TIP Amendment requests:

- ADA Ramps 2020 Bucks & Montgomery Counties
 Advance \$7,500,000 STU/Toll Credit for CON from the 2nd
 and 3rd four years of the TIP (FY25: \$130,000; FY27:
 \$7,370,000 STU/Toll Credit) to FY20
- ADA Ramps 2020 Chester & Montgomery Counties
 Advance \$3,800,000 STU/Toll Credit for CON from the 2nd
 and 3rd four years of the TIP (FY25: \$188,000; FY27:
 \$3,612,000 STU/Toll Credit) to FY20: \$1,963,000 and FY22:
 \$1,864,000 STU/Toll Credit
- 2019 ADA Ramps Philadelphia
 Advance \$3,962,000 STU/Toll Credit for CON from the 2nd and 3rd four years of the TIP (FY24: 783,000; FY25: \$613,000; FY27: \$2,566,000 STU/Toll Credit) to FY20





Districtwide Barrier Repair Various Counties | Add New Project to TIP

TIP Amendment

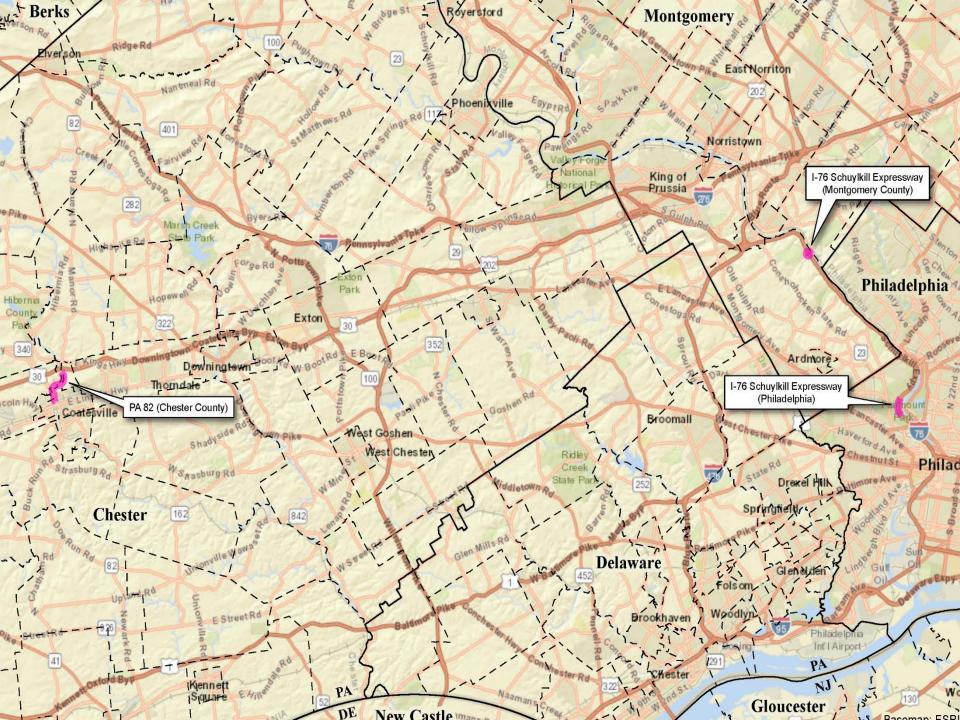
 Action: Add new \$3,025,000 project (\$25,000 State 581 for UTL in FY20 and \$3,000,000 NHPP/Toll Credit for CON in FY20)

Background:

- Repair and replace damaged & deteriorated roadway barriers in Philadelphia, Montgomery, & Chester counties
- 2,500 linear feet of barriers on I-76 (Philadelphia and Montgomery Counties)
- 5,800 linear feet of metal and concrete barriers on Route 82/Manor Road in Chester County













TIP ACTION | Proposed – PA

Agenda Item 5d

Recommend Board approval of PennDOT TIP Amendment request:

Districtwide Barrier Repair
 Add new \$3,025,000 project
 (\$25,000 State 581 for UTL in FY20 and \$3,000,000 NHPP/Toll Credit for CON in FY20)



Bus Purchase ProgramSEPTA | Increase Funding

- TIP Amendment
- Action: Increase the Purchase phase by \$41,795,000; funding shifts will be made accordingly
- Background:
 - SEPTA is requesting amendments to the Bus Purchase Program and the Debt Service Program to add \$120,000,000 of loan funds and the requisite repayment
 - Borrowing will support ongoing procurement of 525 New Flyer 40-foot buses





Debt Service

SEPTA | Increase Funding and Scope Change

TIP Amendment

 Action: Increase the Debt Service phase in FY20 by \$11,700,000 (\$9,360,000 Section 5307 / \$2,265,000 State 1514 / \$75,000 LOC) and add the Bus Purchase Program Debt Service to the description

Background:

- SEPTA will repay \$140,000,000 (principal plus interest) over 12 years
- Borrowing will support ongoing procurement of 525 New Flyer 40-foot buses





TIP ACTION | Proposed - PA

Agenda Item 5e and 5f

Recommend Board approval of SEPTA TIP Amendment requests:

- Bus Purchase Program
 Increase the Purchase phase by \$41,795,000;
 funding shifts will be made accordingly
- Debt Service

Increase the Debt Service phase in FY20 by \$11,700,000 (\$9,360,000 Section 5307 / \$2,265,000 State 1514 / \$75,000 LOC) and add the Bus Purchase Program Debt Service to the description



















www.dvrpc.org/TIP







EV Planning Toolkit

Rob Graff

Manager, Office of Energy and Climate Change Initiatives
Delaware Valley Regional Planning Commission



Electric Vehicles in One Slide

- Operate ~ the same a internal combustion cars.
- Fill battery with electricity rather than tank with gasoline
- Much longer fill time, but costs much less
- Generally fill when already parked at home or work
- Batteries cost more than a gas tank
- Electric drive much simpler, so lower maintenance
- Average range well over 200 miles and getting longer
- Some supplement with gas engine
- Term we are using: Plug-in Electric Vehicle or PEV



EV Planning Questions

- How do we address tomorrow's not yesterday's needs?
- How do we:
 - Know how much paid charging we need?
 - Know enough geographic detail of demand for wise electric distribution systems planning?
 - Make sure we install the right kind of EV charging infrastructure in the right places?
 - Provide infrastructure that people want to be there, but that they are likely to use only very rarely?



Many Questions

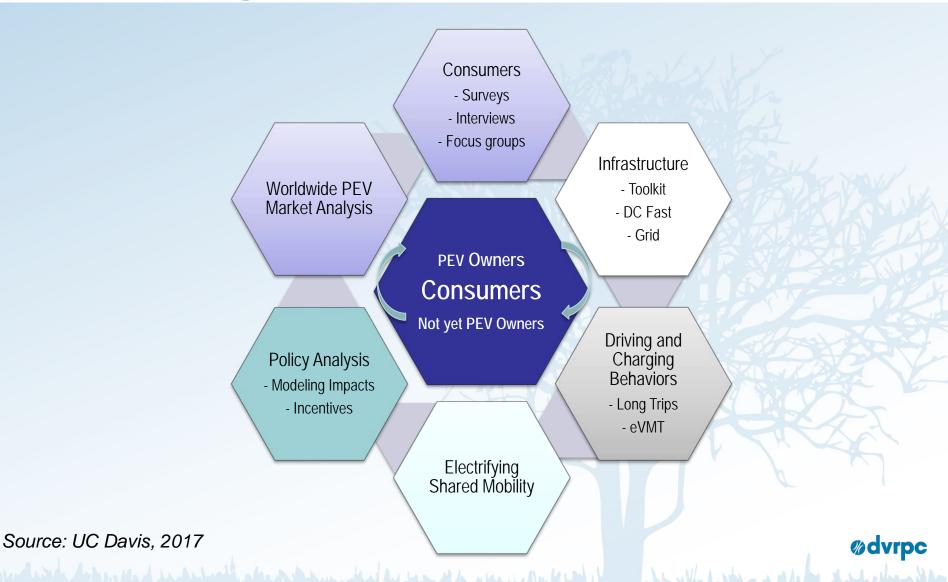
- Where will PEV owners live?
- Where will PEVs be charged?
- What is the expected demand for public and workplace charging?
- How does pricing charging to recover costs affect demand for public and workplace charging?
- What strategies are most effective to provide for charging?
- How do larger batteries and increased range affect behavior?

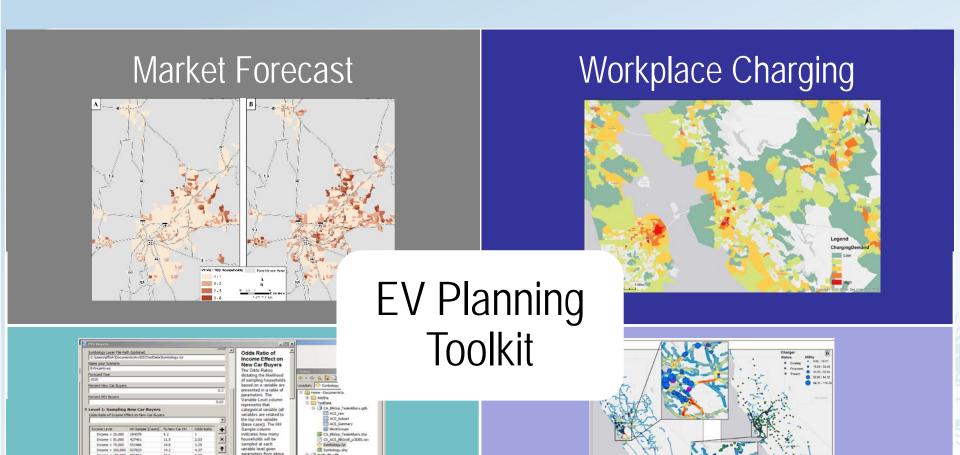


UCDAVIS

PLUG-IN HYBRID & ELECTRIC VEHICLE RESEARCH CENTER

of the Institute of Transportation Studies





ArcGIS Interface Allows
User to Test Scenarios

Fast Charging - Estimates Take into Account Existing Chargers

Source: UC Davis, 2017



Market Analysis Tool

- Predicts spatial location of PEV owner households at census block group level
- Inputs include ACS, LODES, and PEV Sales/Ownership
- Received vehicle level data from both PennDOT and NJ DMV, with tremendous assistance from NJ DEP



Workplace Charging Tool

- Predicts workplace charging demand by census block group
 - kWh of demand
 - Number of charging events
- Data inputs
 - Market Tool results PEV ownership location
 - LODES and TDM data workplaces and commuting distances
 - PEV Scenario mix of PEV types and ranges
 - Pricing and frequency scenarios for charging



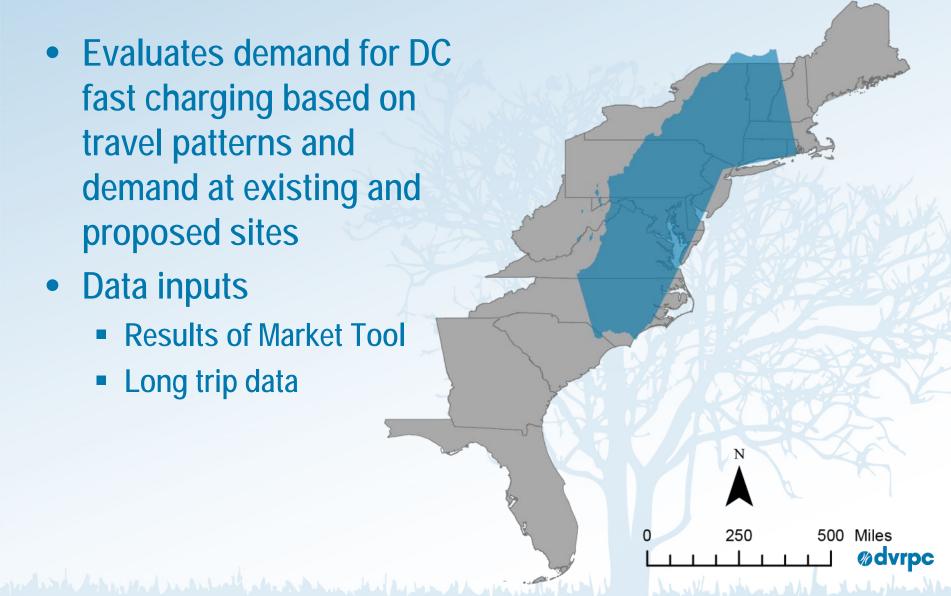
Fast Charging Analysis Tool

 Evaluates demand for DC fast charging based on travel patterns and demand at existing and proposed sites

Data inputs

Results of Market Tool

Long trip data



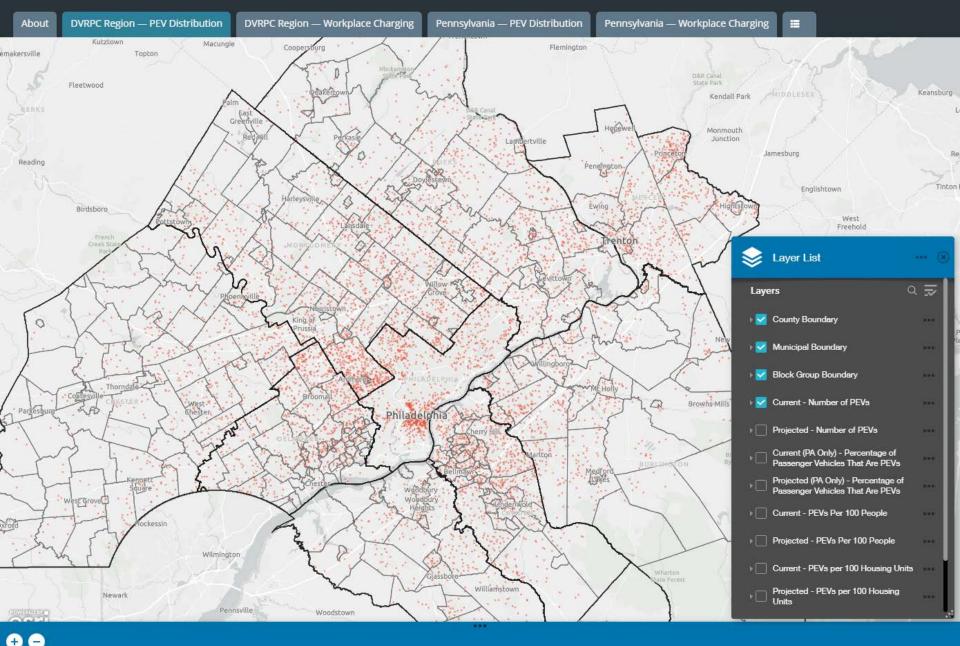
Tool Results

- Group Effort
 - Adam Beam data analysis, tool development, scenarios, etc.
 - Chris Pollard created the on-line interactive map
 - Gil Tal / UC Davis tool and funding through the National Center for Sustainable Transportation (NCST)
- All results are available in an online, interactive map hosted on DVRPC's website.
 - Under internal review please feel free to provide comments
 - Review version (https://tinyurl.com/DVRPC-EV-Toolkit)

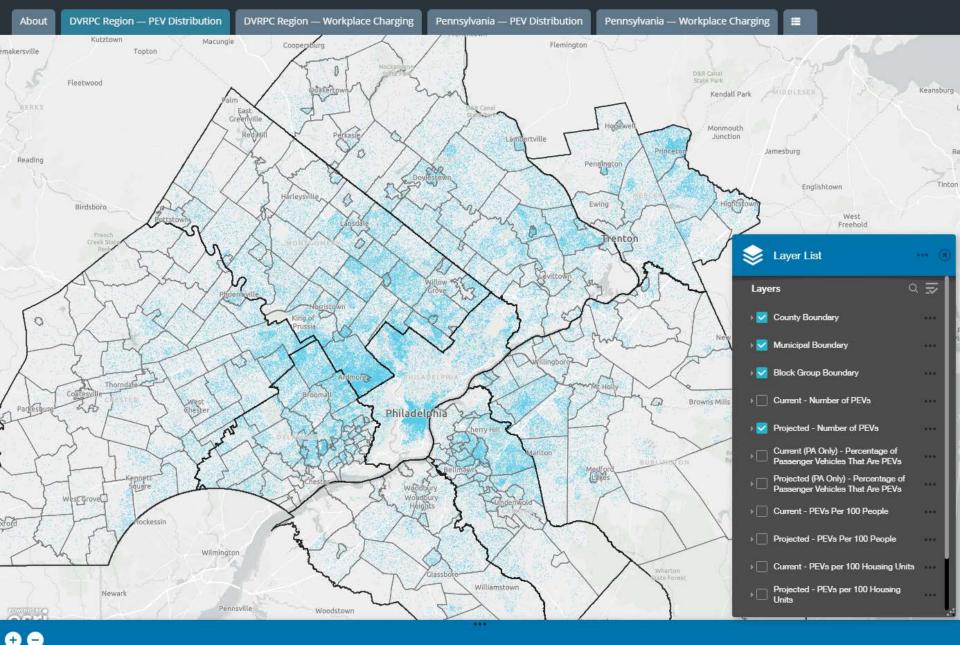














Layers

- ₹

...

...

- County Boundary
- Municipal Boundary
- Block Group Boundary
- Current Number of PEVs
- ▶ Future Number of PEVs
- Current (PA Only) Percentage of Passenger Vehicles That Are PEVs
- Future (PA Only) Percentage of Passenger Vehicles That Are PEVs
- Current PEVs Per 100 People



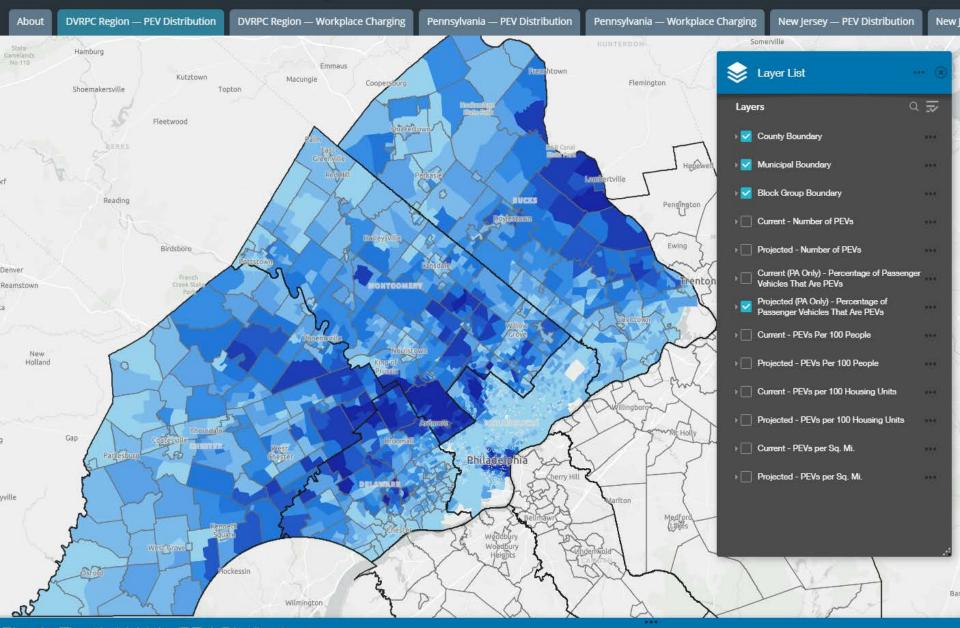
Layer List

- Current Number of PEVS
- ▶ Future Number of PEVs
- Current (PA Only) Percentage of Passenger Vehicles That Are PEVs
- Future (PA Only) Percentage of Passenger Vehicles That Are PEVs
- → Current PEVs Per 100 People
- Future PEVs Per 100 People
- Current PEVs per 100 Housing
- Future PEVs per 100 Housing Units
- Current PEVs per Sq. Mi.
- Future PEVs per Sq. Mi.



...

...



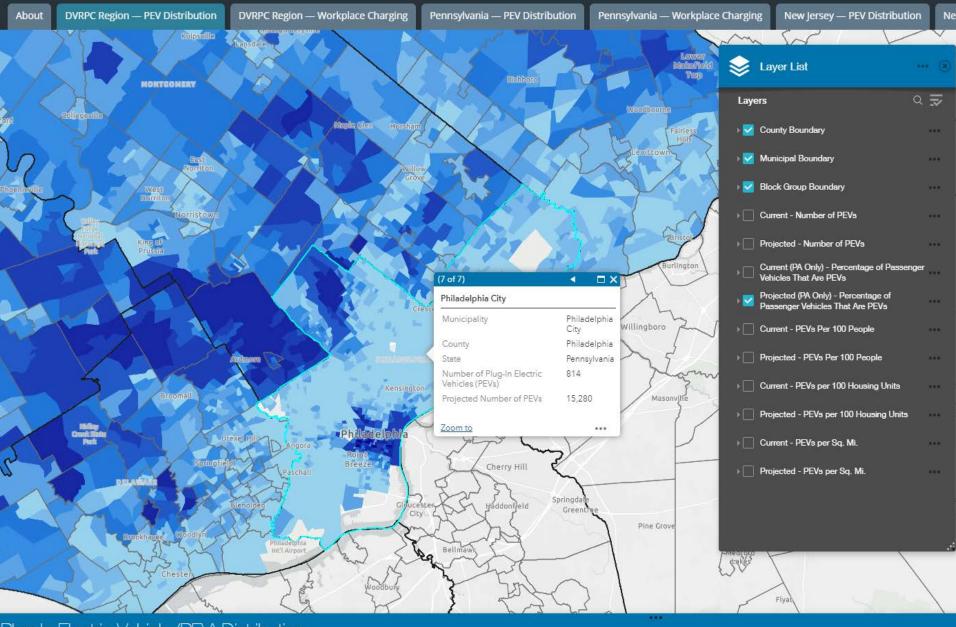










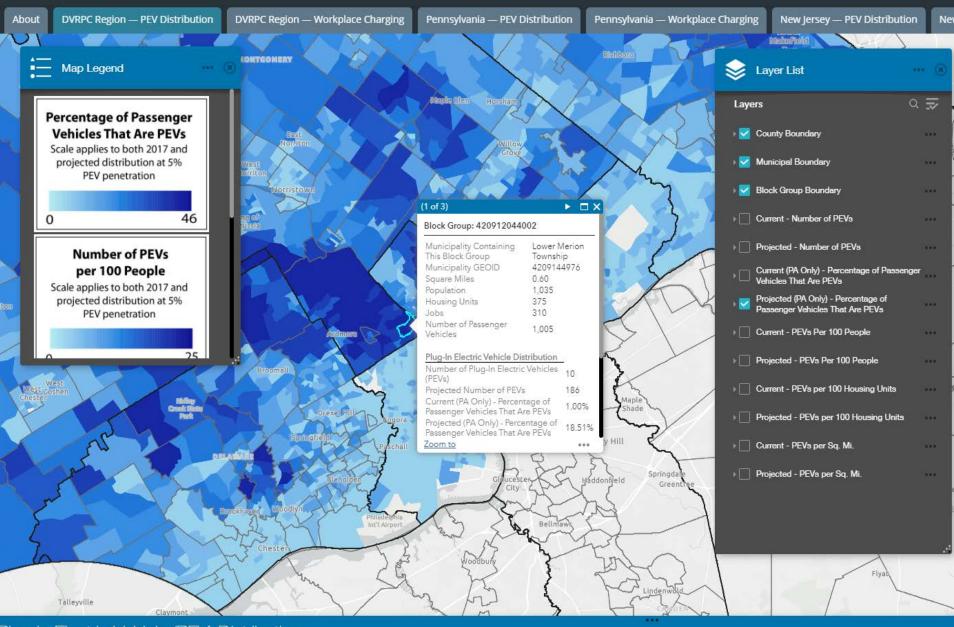












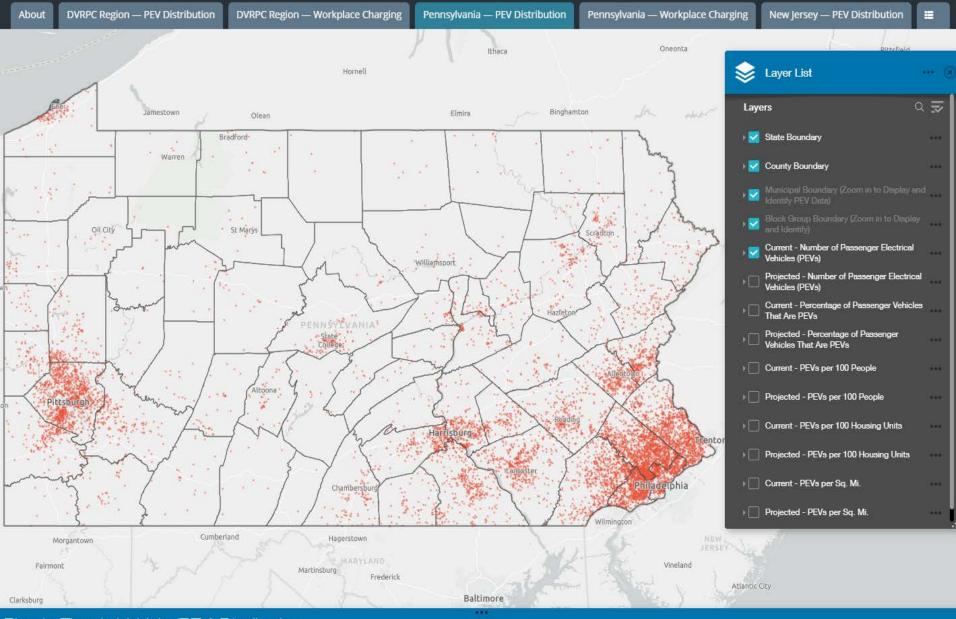














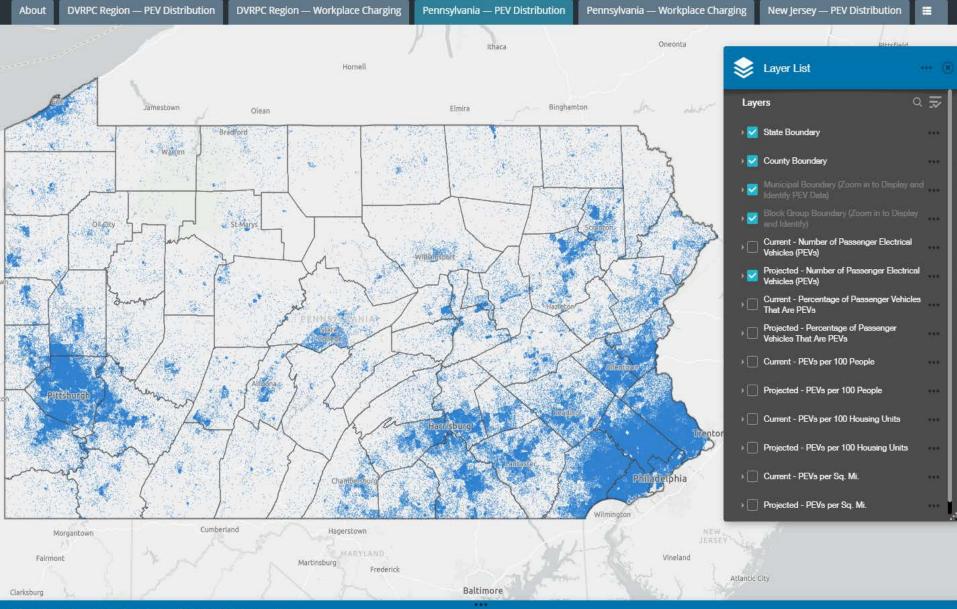












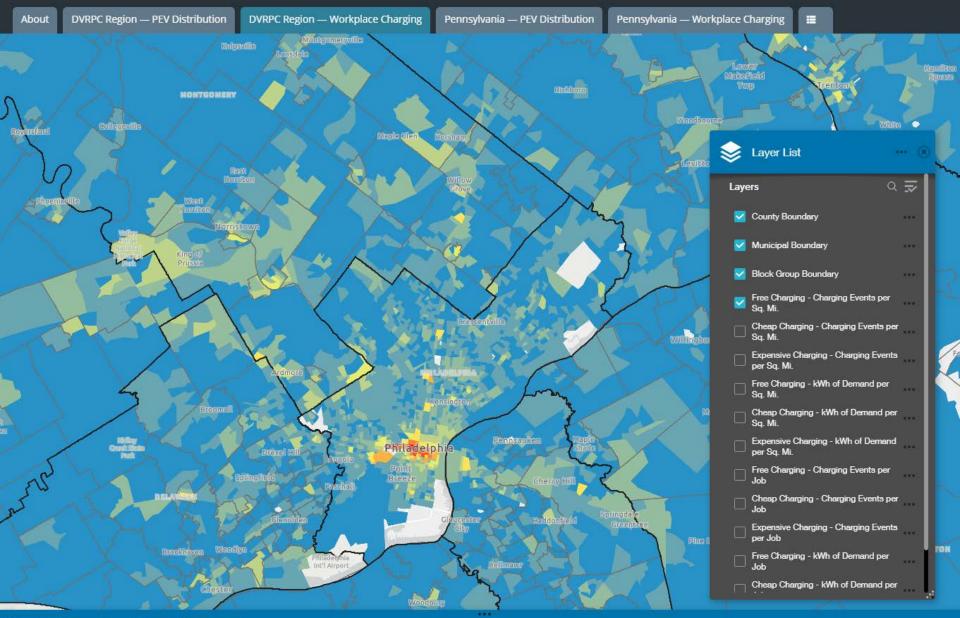












Workplace Charging Demand



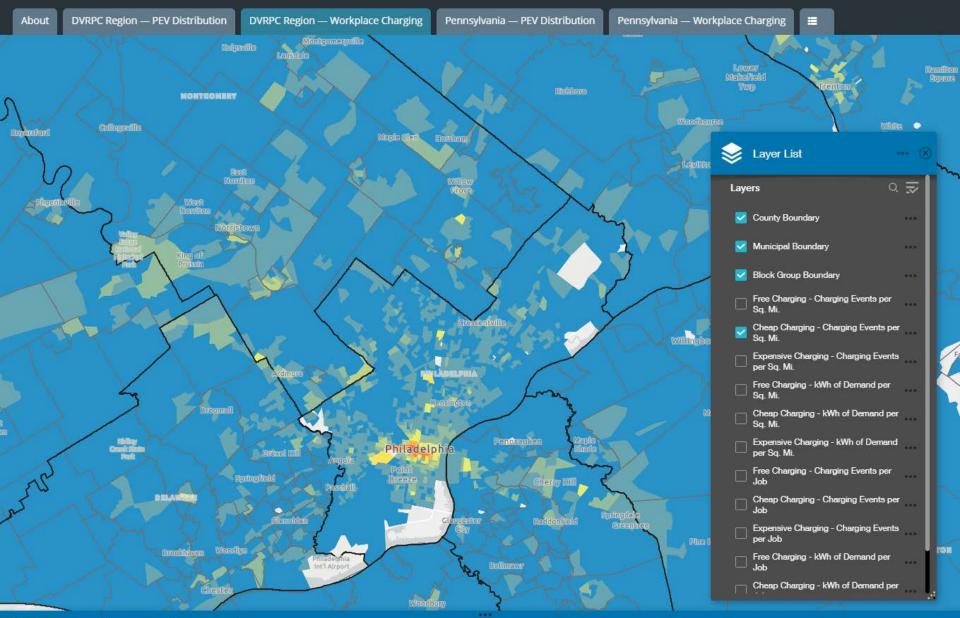












Workplace Charging Demand

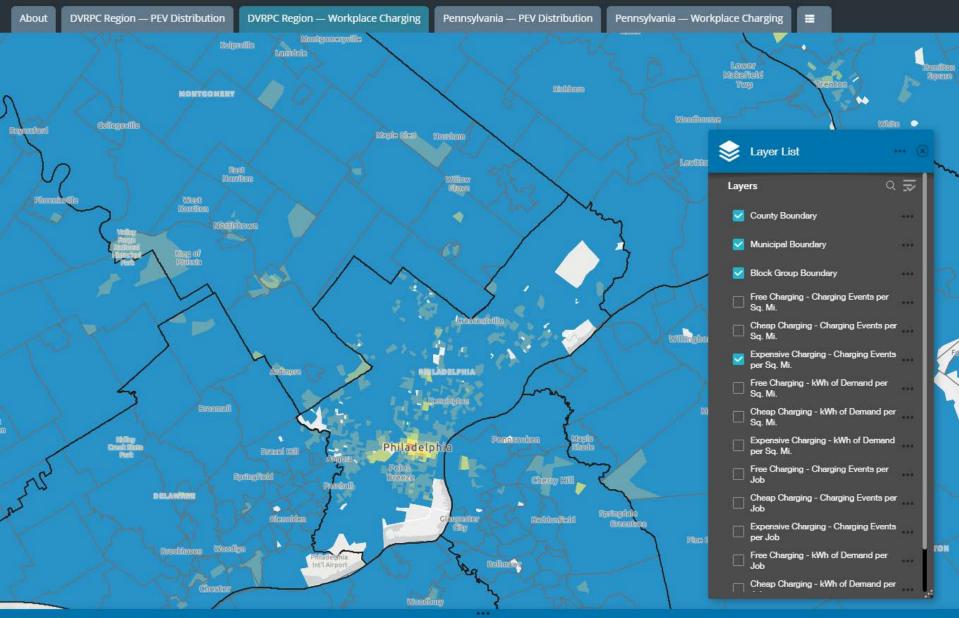












Workplace Charging Demand



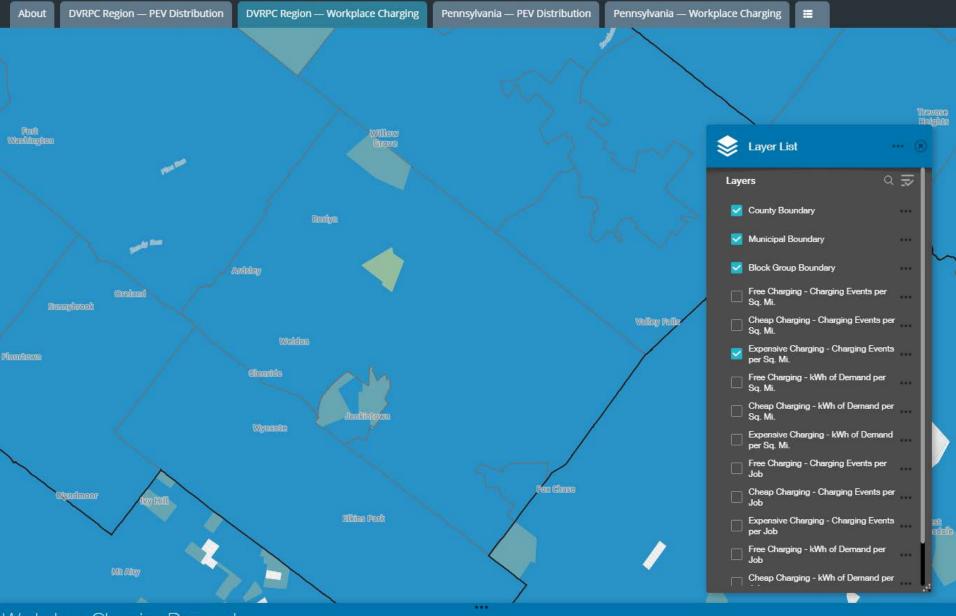






DVRPC/UC Davis Electric Vehicle Planning Toolkit for ArcGIS





Workplace Charging Demand





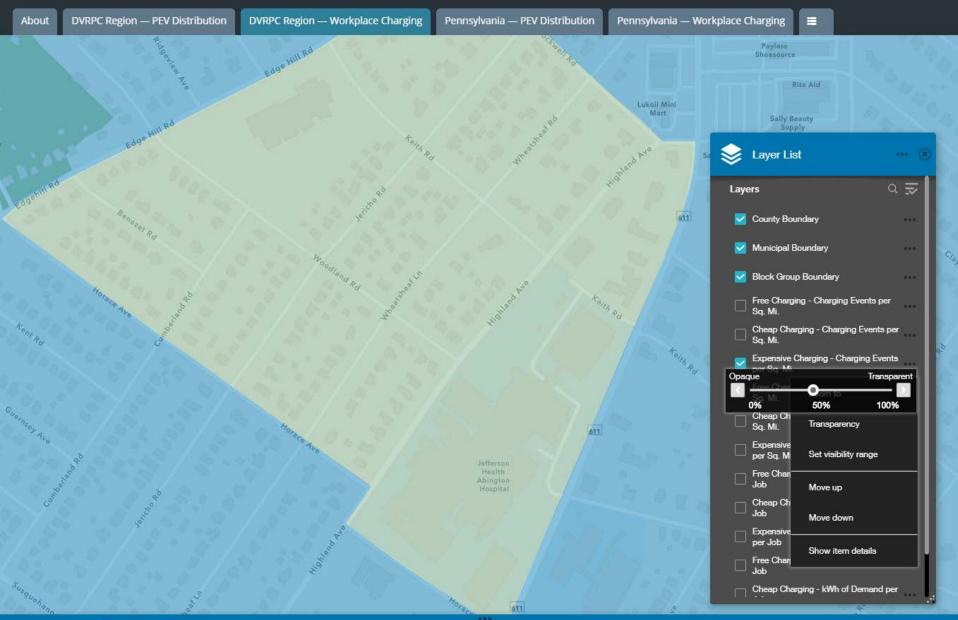






DVRPC/UC Davis Electric Vehicle Planning Toolkit for ArcGIS





Workplace Charging Demand







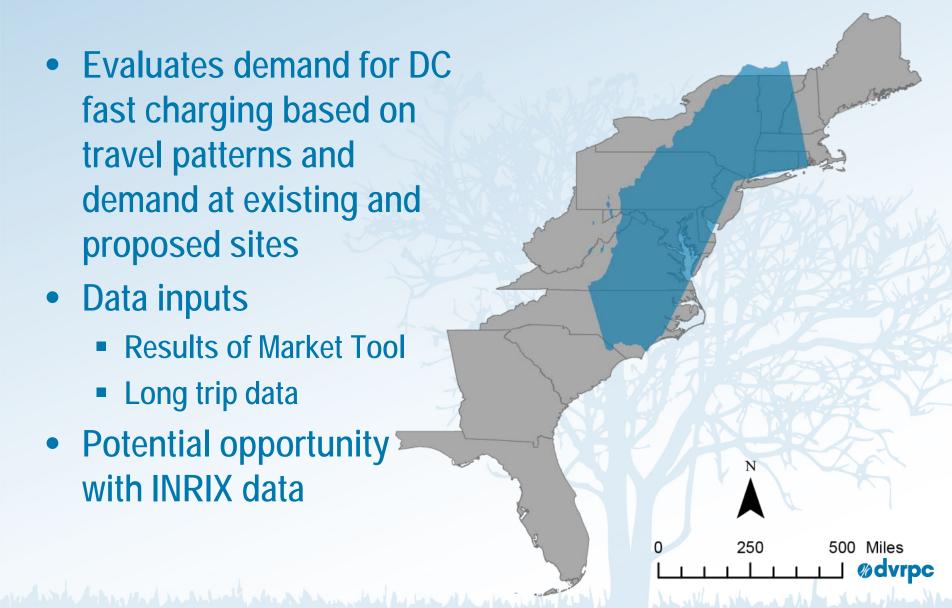


Fast Charging Analysis Tool

 Evaluates demand for DC fast charging based on travel patterns and demand at existing and proposed sites

Data inputs

- Results of Market Tool
- Long trip data
- Potential opportunity with INRIX data



Next Steps

- Update data to gauge progress
- Use to support partners and stakeholders
 - State governments
 - Regional planners
 - EDCs
 - Local governments
 - Businesses
 - Developers
 - EV charging companies
- Calibrate Fast Charging Tool for east coast
- Integrate into on-line EV resource kit



Thank you!

Questions/Comments/Discussion

Rob Graff
rgraff@dvrpc.org
215-238-2826



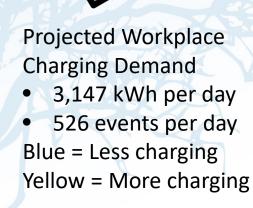
Preliminary/Illustrative Results – Pilot Web Tool with West Chester Borough, Chester County, PA



8 Total PEVs 2017
Dark blue = more
vehicles
6, 678 total
passenger vehicles



526 PEVs when 341,000 PEVs are registered in Southeastern PA Darker = more vehicles







Eastwick Intermodal Center

REGIONAL TECHNICAL COMMITTEE

MARCH 10, 2020





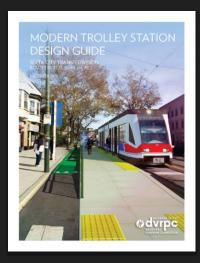
@dvrpc

Project Background

Planning Support for Trolley Modernization (ongoing)

Lower Southwest District Plan (2016)

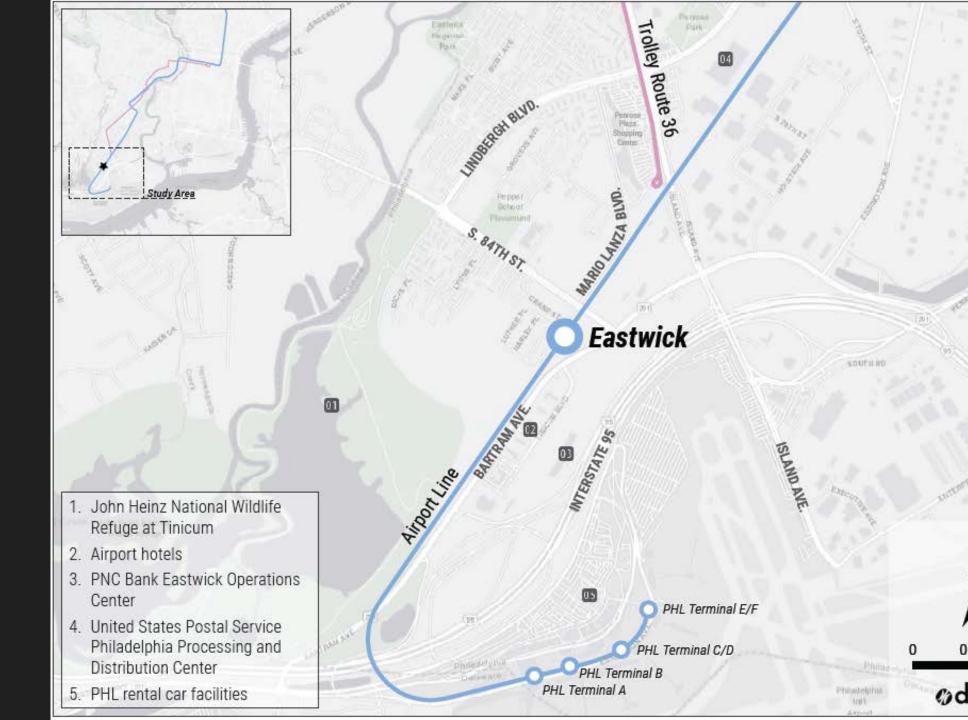
Lower Eastwick Public Land Strategy (2019)



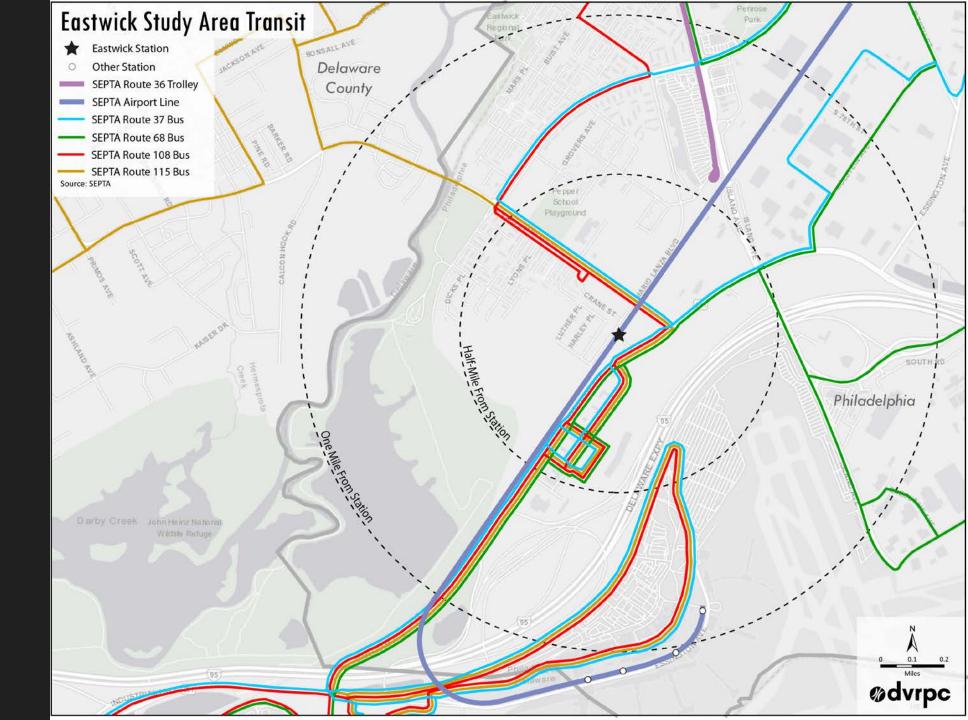


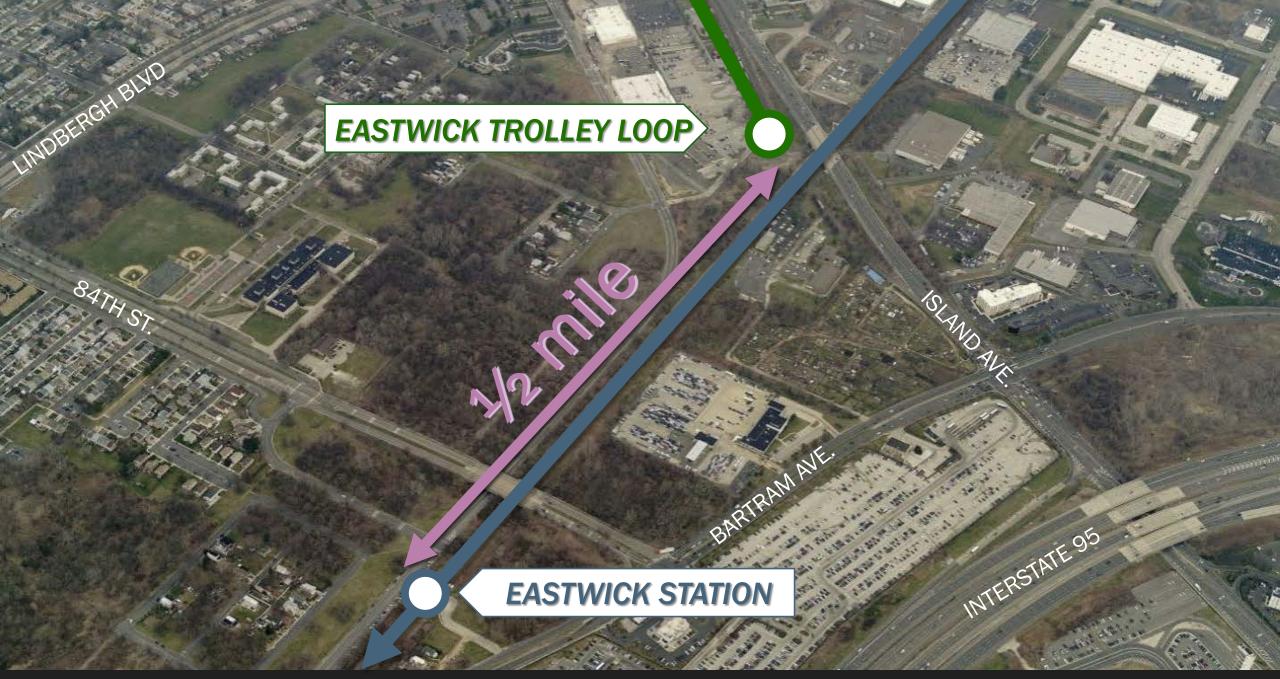


Where is Eastwick?



Lots of transit, but it doesn't all work seamlessly.



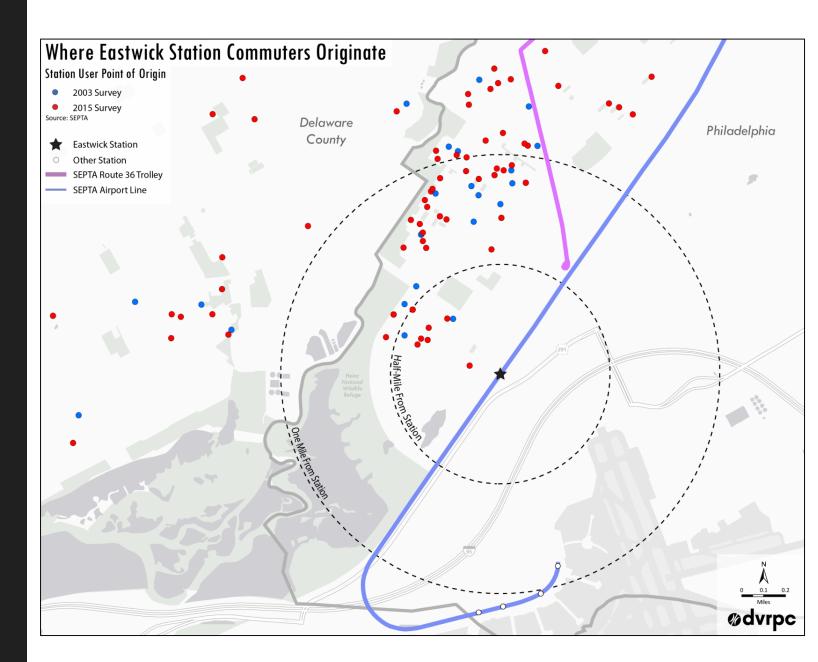




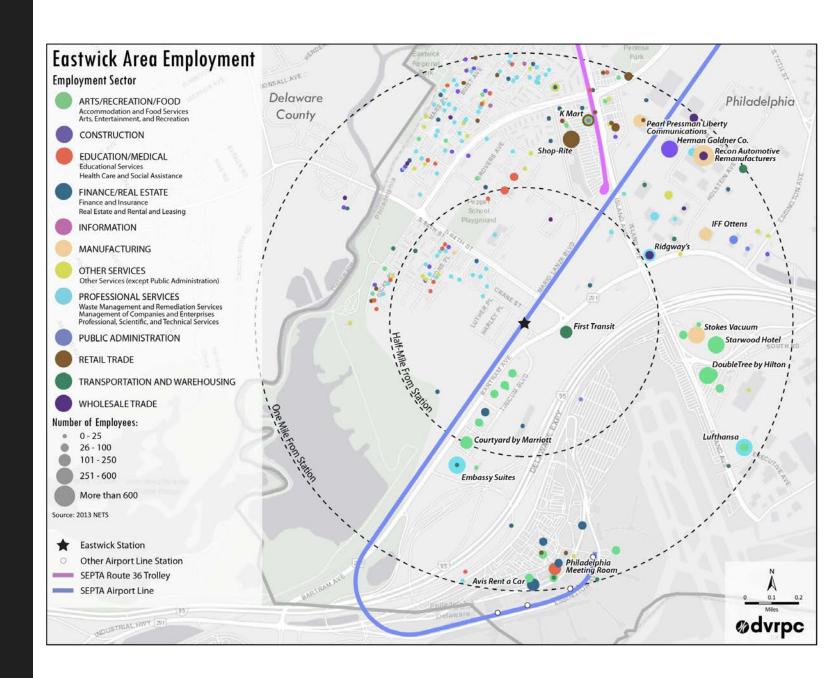
Eastwick Station – Airport Line

How is Eastwick Station used today?

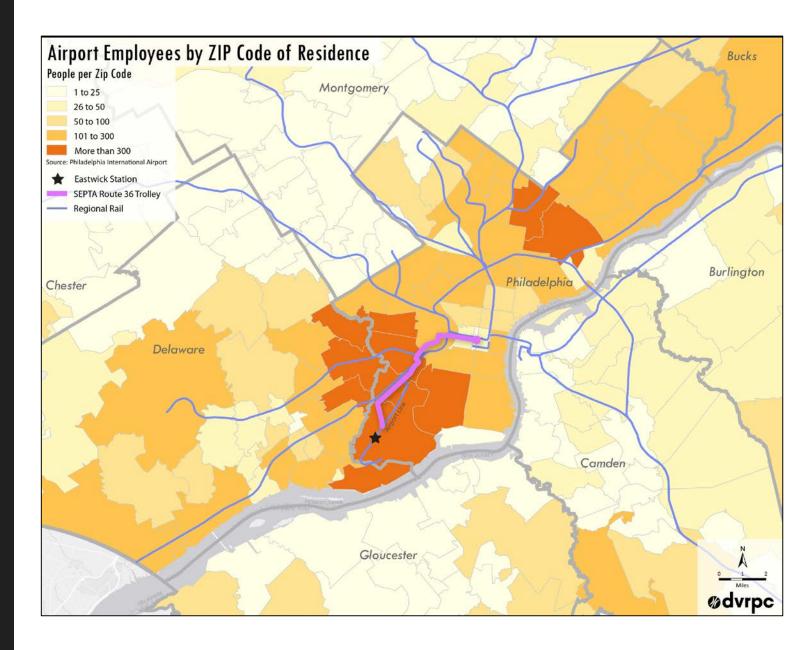
Eastwick Station: Average Weekday Ridership				
	Inbound to Center City		Outbound to Airport	
Year	Boards	Alights	Boards	Alights
2011	336	7	5	334
2013	364	10	3	411
2015	395	3	4	403
2017	348	2	6	398



The Eastwick area is an employment destination.

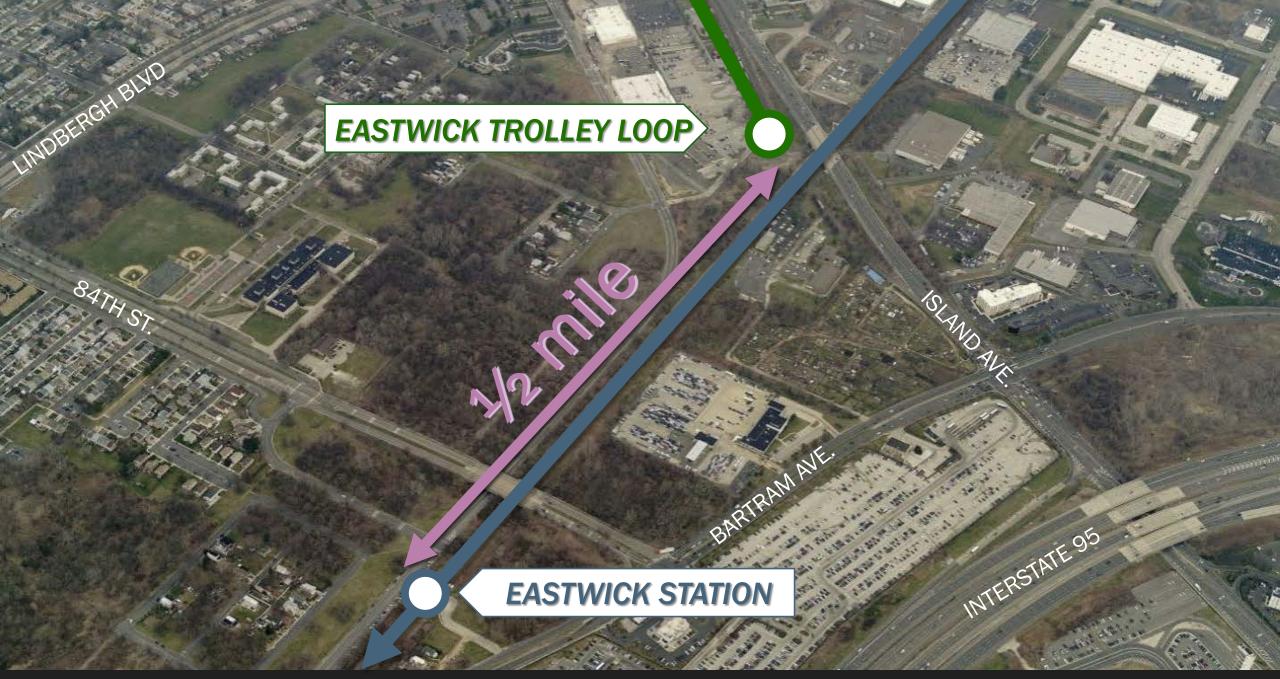


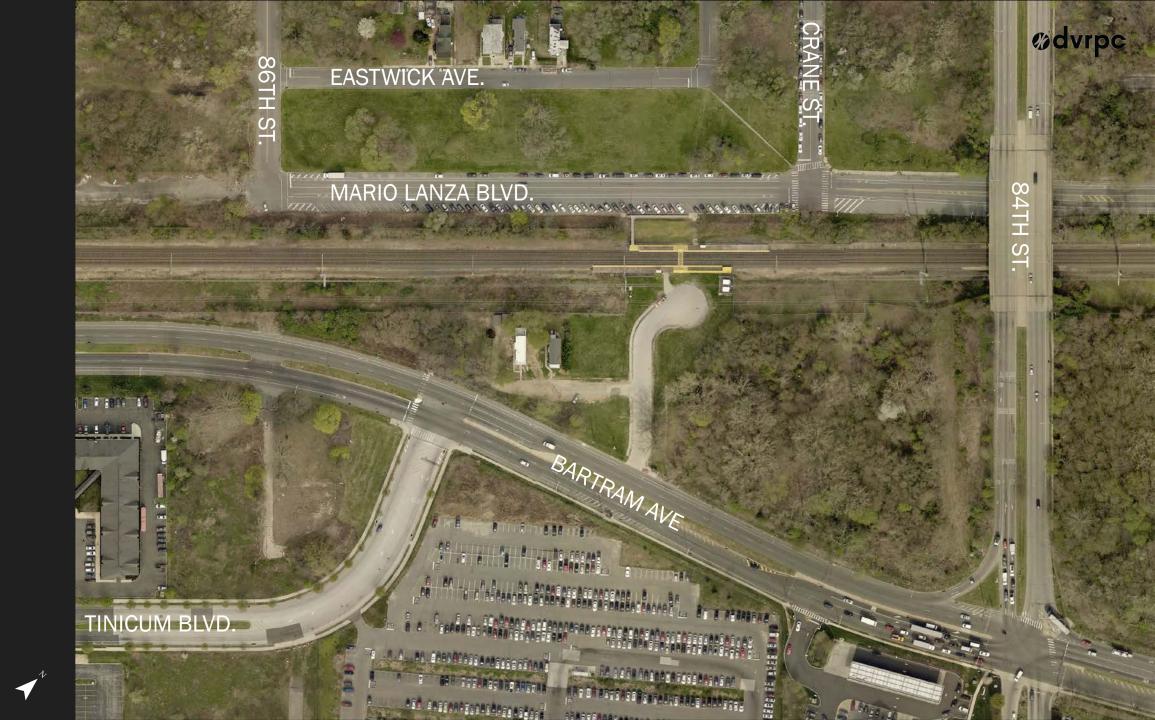
Many airportarea workers live nearby.





Eastwick Loop – Trolley Route 36





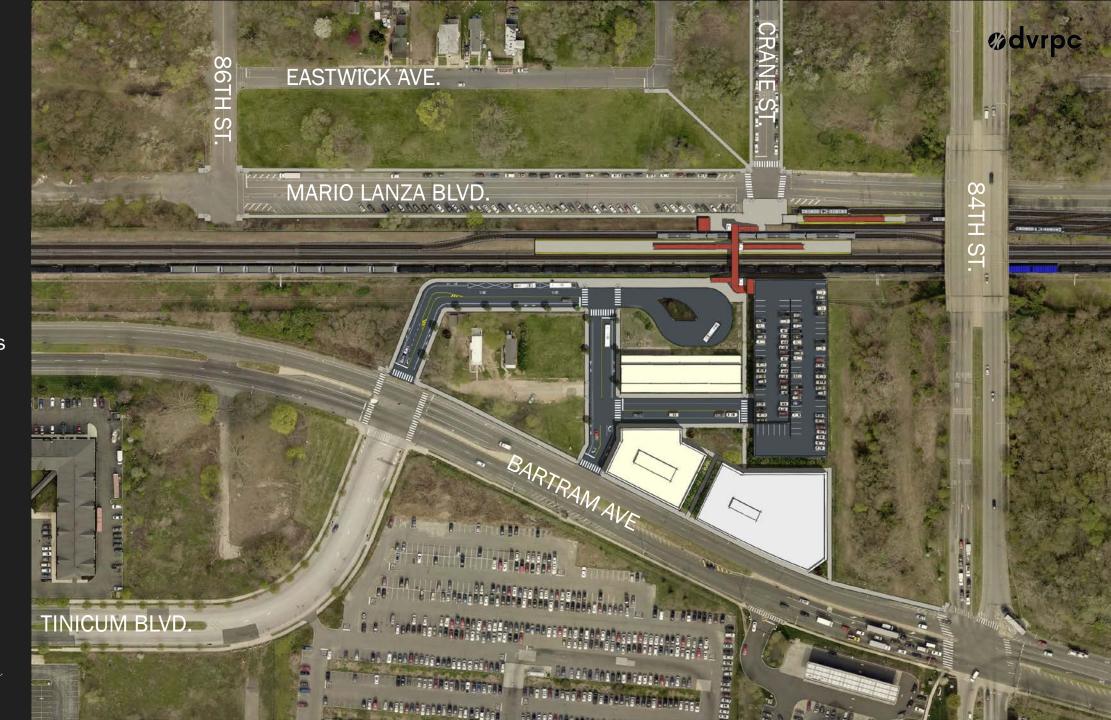
Site Plan

Accessibility

Pedestrian and bicycle enhancements

Freight separation

TOD opportunities





Upcoming Projects

- TROLLEY MODERNIZATION
- AIRPORT AREA TRANSIT

 MASTER PLAN
- SEPTA BUS NETWORK
 REDESIGN

INRIX Truck Trip Data



Matt Gates
Manager, Office of
Travel Trends &
Forecasts

March 10, 2020 Regional Technical Committee



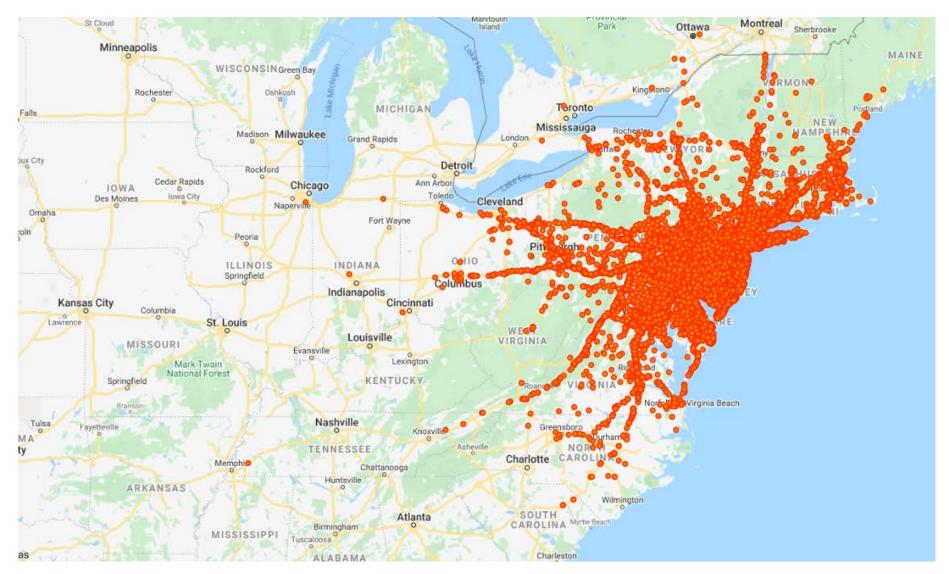
INRIX Truck Trip Data

- Four weeks of data
 - January 21-27, 2018
 - April 22-28, 2018
 - July 15-21, 2018
 - October 14-20, 2018
- Over 2 million trips/week
 - Over 700,000 vehicles
- Over 100 million GPS waypoints/week
- \$72,900 with I-95 Corridor Coalition Discount
 - Multi-user, perpetual use license
 - Cannot share raw data or individual trip data



INRIX Truck Trip Destinations January 21-27, 2018





INRIX Truck Trip GPS Waypoint Data





Data Analysis

- Trip end review and cleaning
 - Some trips begin or end on freeway segments
- Expand INRIX sample to represent all trips
 - Light truck sample size <5%
 - Medium trucks sample size ~40%
 - Heavy truck sample size ~15-20%
- Build trip tours
 - Vehicle IDs change every evening
- Import GPS waypoints
 - 20 hours per day of data
- Conflate GPS waypoints to street network
- Build trip paths from waypoints



Data Analysis

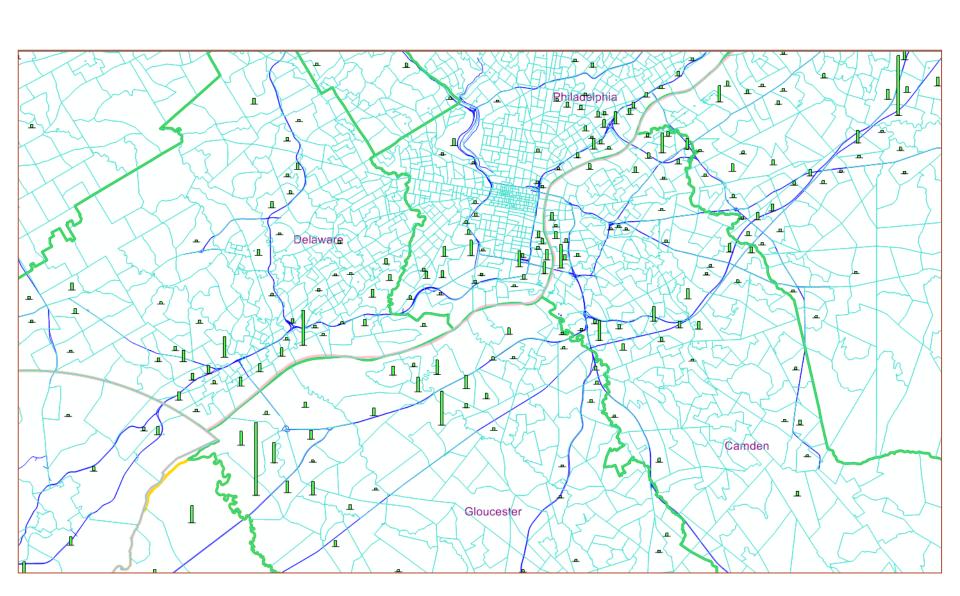
- Freight Model estimation
 - Join stop locations with land use file
 - Determine truck tour rates
 - Determine stops per tour
 - Calculate trip length frequency distributions
 - Build external-external truck trip tables
- Freight Model validation
 - Light/Heavy truck VMT by county
 - Light/Heavy truck screenline crossings
 - Light/Heavy truck volumes for individual facilities



Example Product – Heavy Truck Trips Origin Map



(For Traffic Analysis Zones with 25 or more heavy truck trips per day)



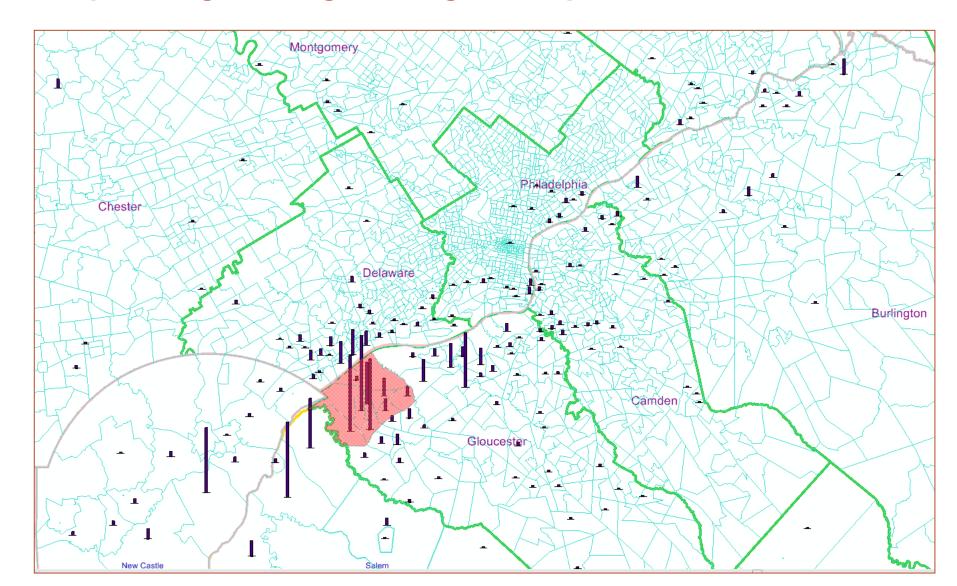
Logan Township Distribution Center





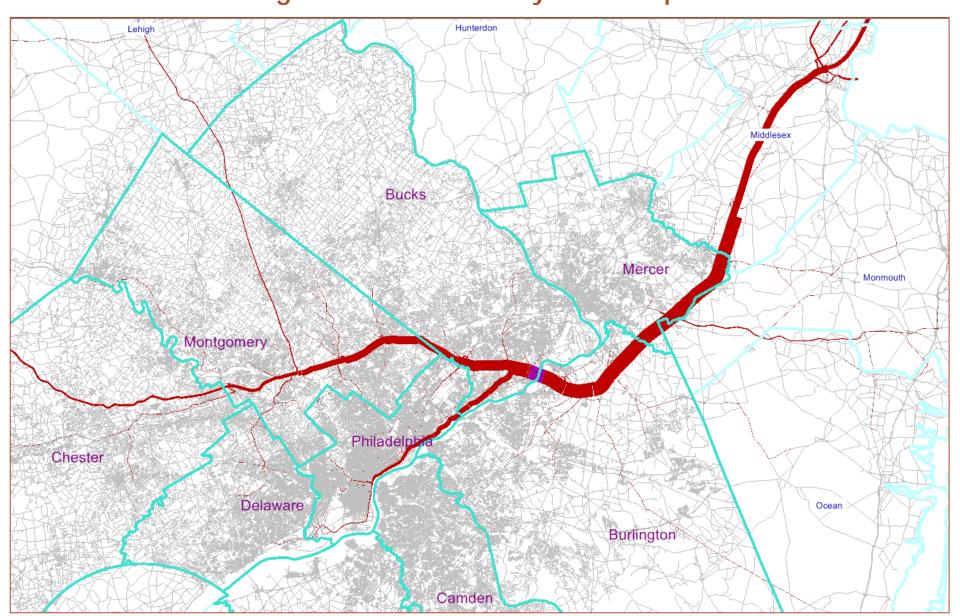
Example Product – Destination of Truck Trips Originating in Logan Twp





Example Product – Select-Link Analysis Scudder Falls Bridge Eastbound Midday Truck Trip Paths

ødvrpc



Truck Trip Data Requests

- Montgomery County
 - Church Road, Cheltenham Township
- Montgomery/Bucks counties
 - PA 309 Connector
- Bucks/Mercer counties
 - I-95 Scudder Falls Bridge
- Philadelphia County
 - Levick & Robbins Street corridor
 - Philaport
- Delaware County
 - I-95 Industrial Park Access



Thank You! Questions? Comments?



Matt Gates
Manager, Office of
Travel Trends &
Forecasts
215.238.2911
mgates@dvrpc.org





Goals of PPTF

Provides ongoing public access to the regional planning process

Meetings happen every 5-6 weeks and are not dependant on project timelines Assists the Commission to implement public outreach strategies

Public participation is part art, part science; need to test and improve

Empower residents to get involved in the planning process

Members can engage with the Commission and bring knowledge back to their communities

Member selection process

Target ed Out reach

Underrepresented communities are contacted by DVRPC staff to encourage people to apply

Selection Committe

PPTF applications are reviewed by non-DVRPC staff and members are selected in a committee meeting

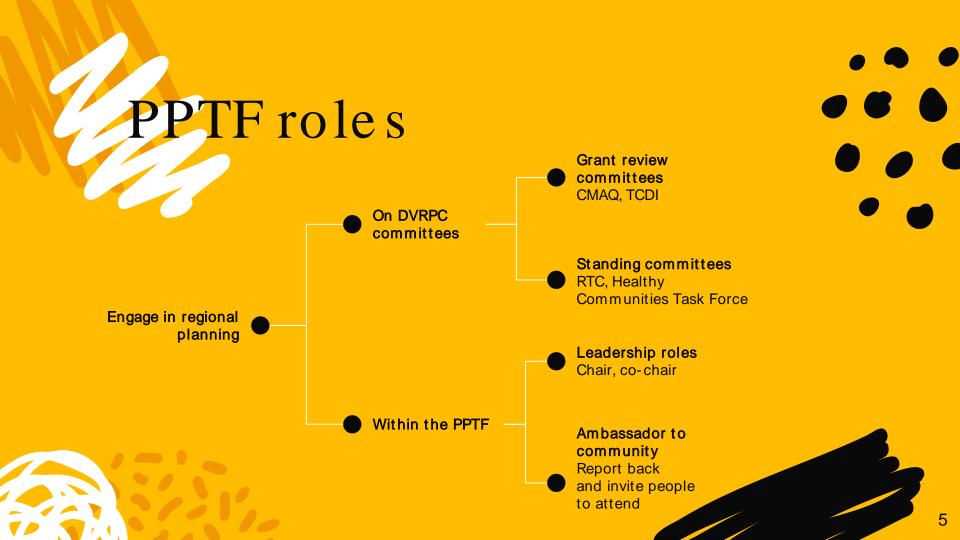
Regional Diversity

Current members and applicants voluntarily report race, ethnicity, age, gender, and disability information.

PPTF curriculum

- X 9-10 meetings a year
- X Half members-only meetings, half open to all
- X Every year host meetings on critical docs: Long Range Plan, Transportation Improvement Program, and Work Program workshop





PPTF meetings





Non-planning experts

Work Program







Shoshana Akins sakins@dvrpc.org







PennDOT District 6-0 Street Typology and Speed Management Decision-Making Framework

DVRPC Office of Safe Streets
Regional Technical Committee
March 10, 2020



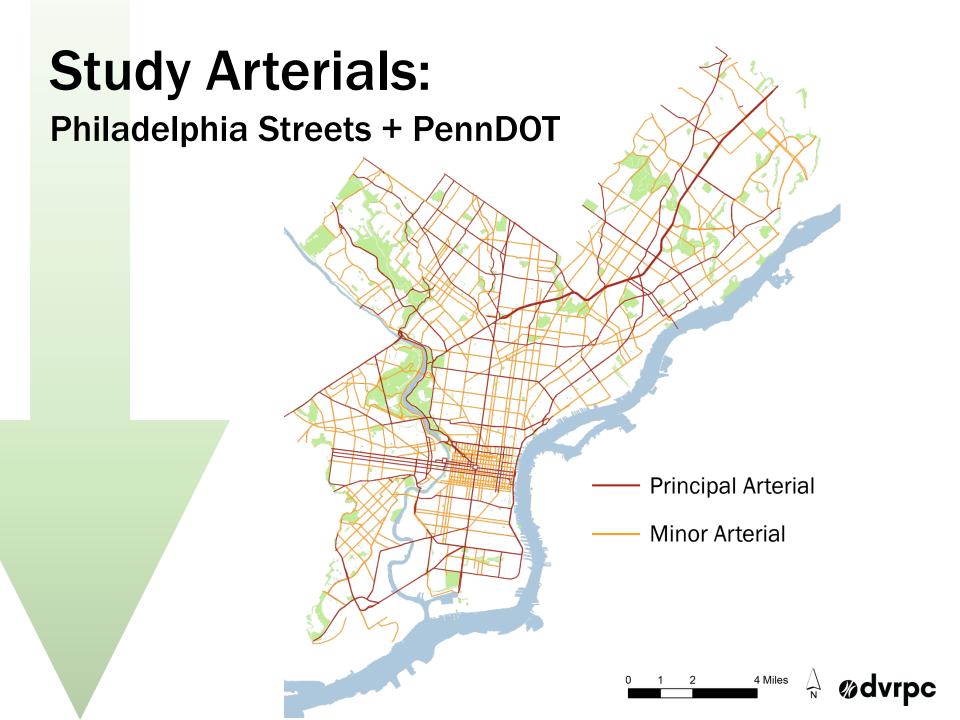
Stakeholders

- PennDOT District 6-0
- City of Philadelphia
 - Department of Streets
 - Office of Transportation, Infrastructure, and Sustainability (OTIS)
- PennDOT Bureau of Maintenance and Operations (Kittelson & Associates, Inc.)
 - DM 2 Update



Goal





Comparison: Principal Arterials



Torresdale Ave

• Width: 73 ft

No. of lanes: 4

Speed limit: 35

• **AADT:** 11,500

Land Use: Park/Residential

Context: Suburban

Jurisdiction: State

• Width: 46 ft

• No. of lanes: 2

Speed limit: 30

• **AADT**: 14,500

Land Use: Residential-Commercial

• Context: Urban

• Jurisdiction: State

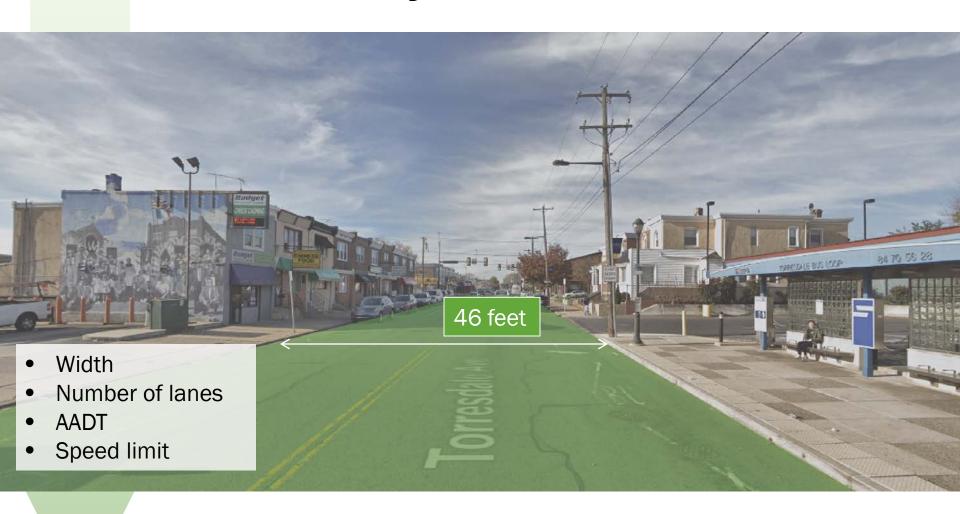
ødvrpc

Key Questions

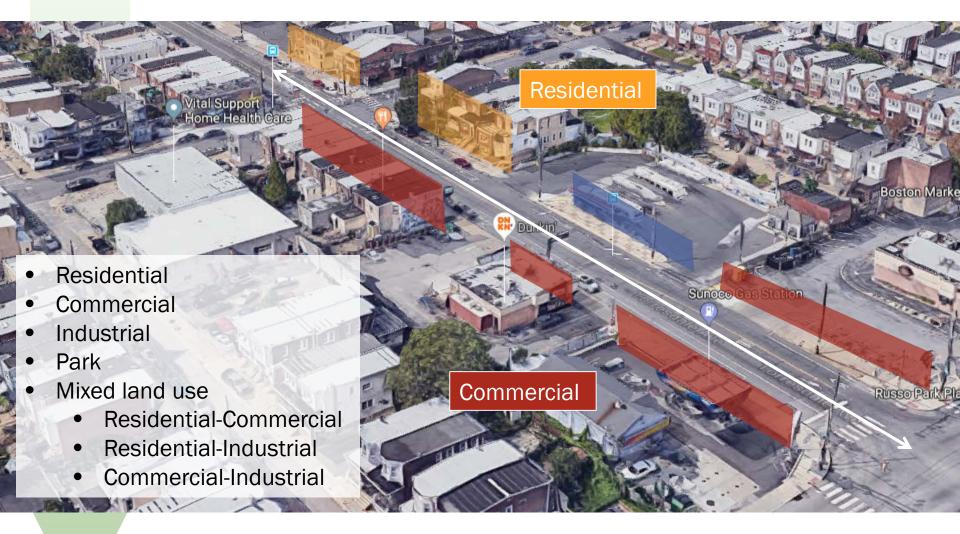
- What speed management strategies are possible within the cartway of the arterial? (ROAD)
- 2. What **land uses** front the street and how do they dictate which speed management strategies are appropriate? (LAND)
- 3. Citywide, how does the arterial fit into the overall transportation network? (CONTEXT)
 - Is the priority for <u>land access</u> or <u>vehicle mobility</u>?



1. Roadway Characteristics



2. Land Use



3. Context

- Urban
- Urban Core

TYPOLOGY ASSIGNMENT

Typology Development

- 1. Roadway Characteristics
 - Volume
 - Width and number of lanes
 - Intersection density/signalization
 - Speed limits
 - One-way vs. two-way
- 2. Land Use
- 3. Context



1. Roadway Characteristics

Key indicators:

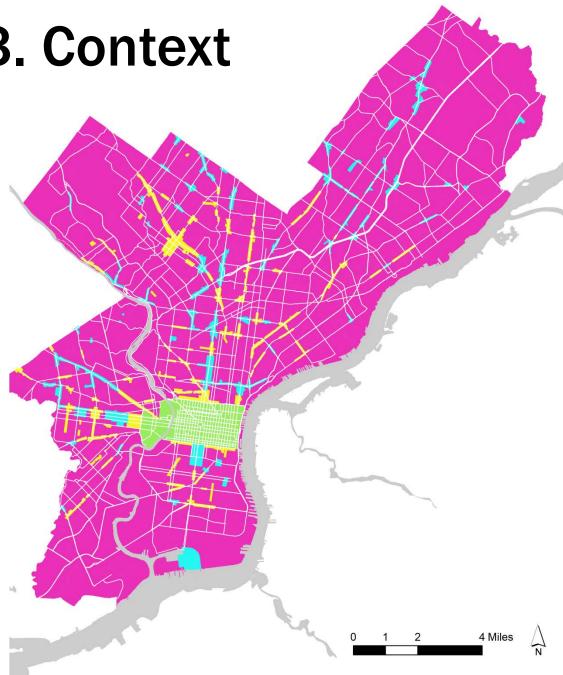
- Narrow: less than 35 ft and any number of lanes
 OR less than 50 ft and less than 3 lanes
- Wide: greater than 50 ft and any number of lanes OR greater than 35 ft and 3 or more lanes
- High Volume ("Connector"): greater than 11,500
 AADT

2. Land Use

- Residential/Commercial ("Neighborhood" uses)
 - Residential
 - Commercial
 - Residential-Commercial
 - Residential-Industrial
- Others ("Connector" uses)
 - Industrial
 - Commercial-Industrial
 - Park

3. Context

- Urban
- Urban Core
 - Center City (green)
 - Commercial Corridors (blue &
 - Schools (not shown)



Typologies

Narrow Neighborhood

Commercial/residential land use Narrow street Less than 11,500 AADT

Narrow Connector

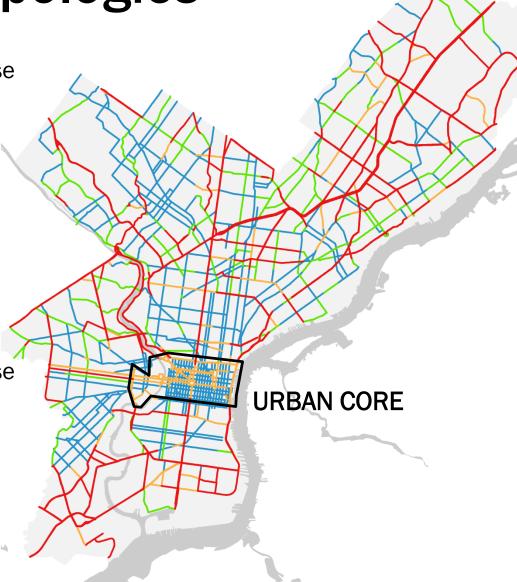
Narrow street
Greater than 11,500 AADT, or industrial land use

Wide Neighborhood

Commercial/residential land use Wide street Less than 11,500 AADT

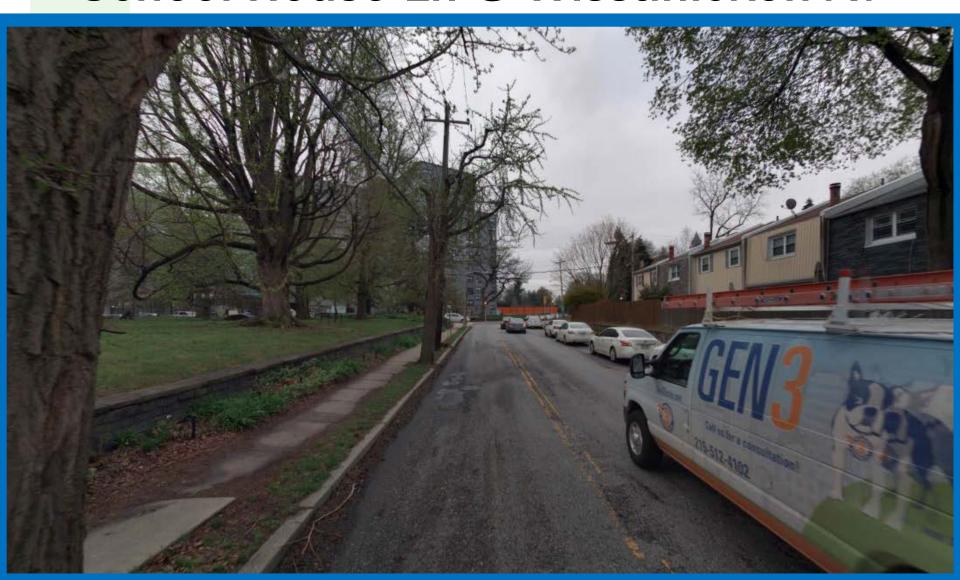
Wide Connector

Wide street
Greater than 11,500 AADT, or industrial land use

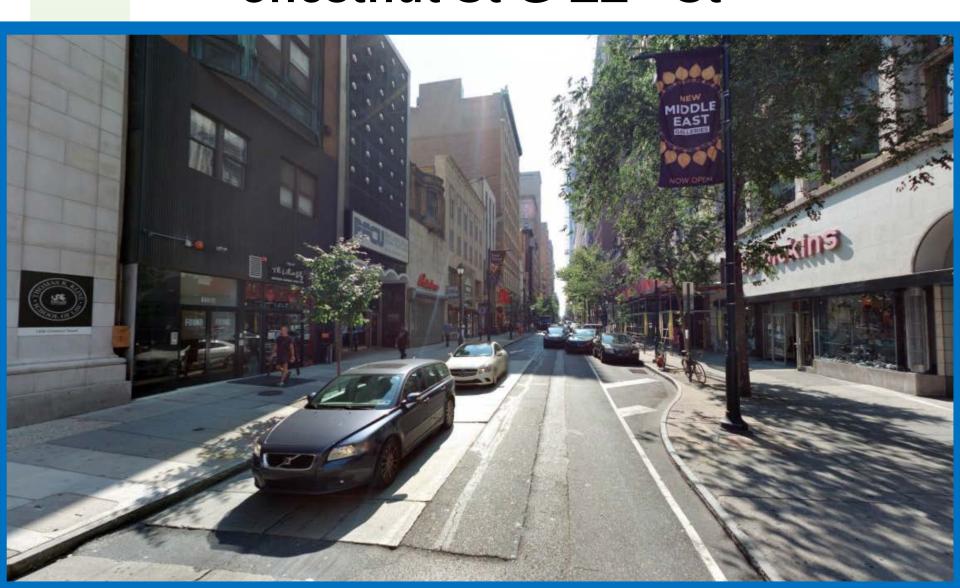


Example Streets:

School House Ln @ Wissahickon Av



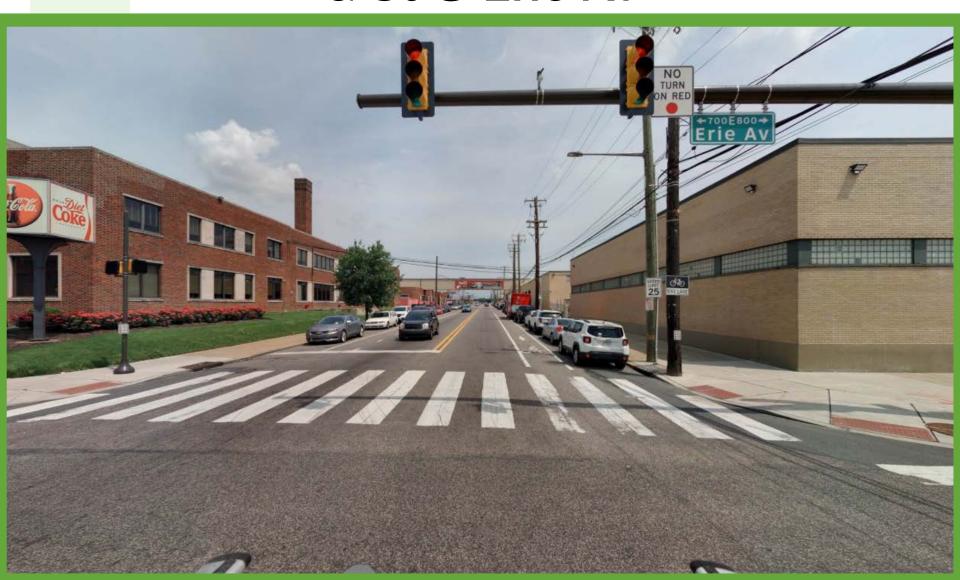
Example Streets: Chestnut St @ 12th St



Example Streets: Rising Sun Av @ Tabor Av



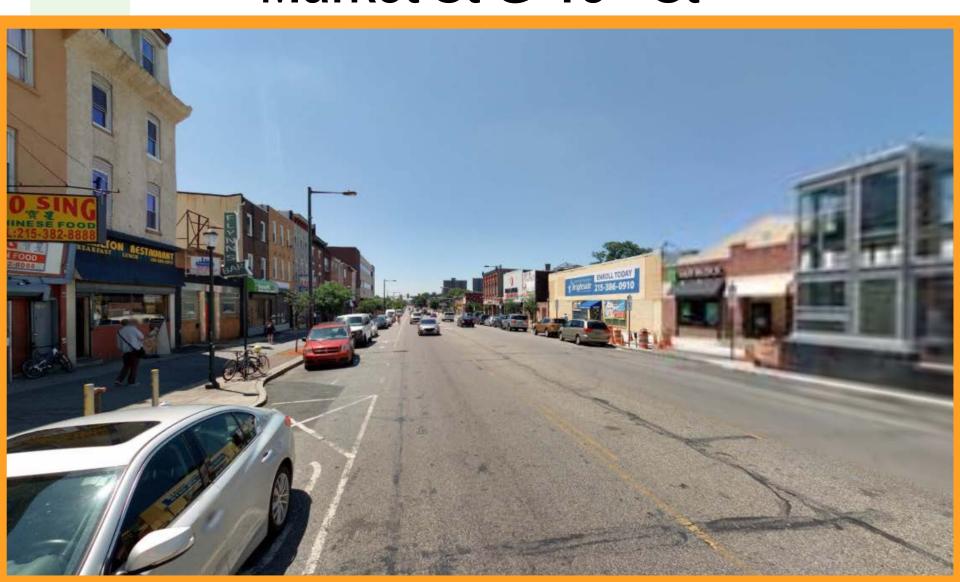
Example Streets: G St @ Erie Av



Example Streets: Castor Av @ Devereaux Av



Example Streets: Market St @ 40th St



Wide Connector

Example Streets: Lincoln Dr @ Henry Av



Wide Connector

Example Streets: Red Lion Rd @ Bustleton Av



Final Product Development

- New typology layers for the District 6-0 safety webmap
- Linked primer with data dictionary, framework, methodology, etc.
- Proposed changes to speed management evaluation process incorporating new typologies



Questions?

Marco Gorini

Transportation Planner

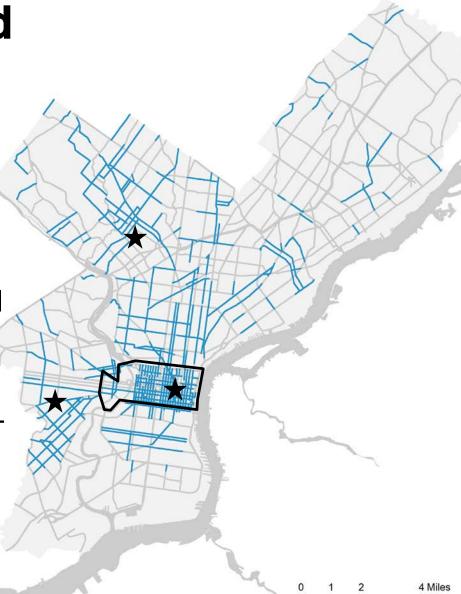
p: 215-238-2884

e: mgorini@dvrpc.org



Narrow Neighborhood

- Total mileage:
 - 207 mi (29% of network)
- Definition:
 - Urban context:
 - Commercial/residential land use
 - 2. Narrow street
 - 3. Less than 10,000 AADT
 - Urban core context:
 - 1. Narrow street



Narrow Connector

- Total mileage:
 - 124 miles (17% of network)
- Definition:
 - Urban context:
 - 1. Narrow street
 - 2. Greater than 10,000 AADT, or industrial land use
 - Urban core context:
 - N/A



Wide Neighborhood

- Total mileage:
 - 148 miles (21% of network)
- Definition:
 - Urban context:
 - Commercial/ residential land use
 - 2. Wide street
 - 3. Less than 10,000 AADT
 - Urban core context:
 - 1. Wide street



Wide Connector

- Total mileage:
 - 238 miles(33% of network)
- Definition:
 - Urban context:
 - 1. Wide street
 - 2. Greater than 10,000 AADT, or industrial land use
 - Urban core context:
 - N/A

