WELCOME

- Long-Range Plan Background & Development
- Future Forces, Sustainable Transportation Actions, & Networking Transportation
- Stakeholder Feedback & Next Steps
Long-Range Plan
Background & Development
Long-Range Plan

CONNECTIONS2040
PLAN FOR GREATER PHILADELPHIA
fostering sustainability, equity and innovation

CONNECTIONS 2045
Plan for Greater Philadelphia
DVRPC Long-Range Planning

Public Engagement

FUTURES GROUP
CHOICES & VOICES

SCENARIO PLANNING

TRENDS & FORCES

INDICATORS

TRACKING PROGRESS
RATING THE REGION
FUTURE FORCES INDICATORS
MAP-21 PERFORMANCE MEASURES

VISION & GOALS

DECISION MAKING

IMPLEMENTATION TOOLS

STRATEGIES

TAKING ACTION

AIR QUALITY PARTNERSHIP
MUNICIPAL TOOLBOX
CLASSIC TOWNS
REGIONAL TRAILS PROGRAM
TCDI

FINANCIAL PLAN
Revenue Forecast
Needs Assessment
Funding Allocation
Project Evaluation
Funding Options

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REGIONAL INDICATORS - How Are We Doing?

**RATING THE REGION**
- Comparison to peer regions
- Identifies regional strengths & weaknesses

**TRACKING PROGRESS**
- Measure attainment of Plan goals
- Prioritize key issues for Plan update
- Groundwork for assessing needs
Visioning – Spring 2016 Workshops
Visioning – Other Input

- **Additional Workshops**
  - Philly Tech Week
  - Public Participation Task Force
  - RCEDF
  - DVRPC Board

- **Online Survey**

Source: 2016 SHoP Architects/West 8. All Rights Reserved
WHAT IS YOUR VISION FOR THE FUTURE?

Integrated, Multimodal Transportation

Environment / Green Space / Sustainability
- Responsible Development, Revitalization
- Megaregional Connections
- Climate Resiliency

Equity, Poverty Reduction
- Housing Variety
- Energy Hub

Regional Cooperation & Government Efficiency
- Climate Resiliency
- Health

Education
- Population Growth
- Age in Place

Density, Livability
- High-Speed Rail
- The Circuit
- Green Energy, Less Energy Use
- Agriculture & Food Security

Economic Growth & Competitiveness
- Megaregional Connections
- Autonomous Vehicles
- Cleanliness, Aesthetics

Healthy Equity, Poverty Reduction
- Quality of Life
- Manufacturing
- Reduced Density

Quality of Life
- Health
- Safety

Embrace Diversity
- Sense of Community/ Social Capital
- Density, Livability

Regional Cooperation & Government Efficiency
- River Access
- Improve Roads & Mobility

Accessibility
- Highway Removal/No New Roads

Affordability
- Infrastructure Investment/Expansion

Manufacturing
- High-Speed Rail

Embrace Diversity
- Sense of Community/ Social Capital
- Density, Livability
- Cultural Amenities

Smart Technology
- The Circuit
- Energy Hub

The Circuit
- Manufacturing
- Reduced Density

Sustainability
- Environment / Green Space / Sustainability
- Reduced Density
- Climate Resiliency

Economic Growth & Competitiveness
- Megaregional Connections
- Autonomous Vehicles
- Cleanliness, Aesthetics

Sense of Community/ Social Capital
- Density, Livability

Other
- Other

High-Speed Rail
- High-Speed Rail
- The Circuit
- Energy Hub

Infrastructure Investment/Expansion
- Infrastructure Investment/Expansion
- Climate Resiliency

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WHAT IS YOUR VISION FOR THE FUTURE?

Environment / Green Space / Sustainability
Equity, Poverty Reduction
Regional Cooperation & Government Efficiency

Integrated, Multimodal Transportation
Density, Livability

Education

Economic Growth & Competitiveness
WHAT IS YOUR VISION FOR THE FUTURE?

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Density, Livability

Education

Economic Growth & Competitiveness

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The Vision

Over the Next 30 Years, Greater Philadelphia will:

- Build an Integrated, Multimodal **Transportation** Network
- Strengthen **Livable Communities**
- Sustain **Natural Resources**
- Expand the **Economy**
- Enhance **Education**
- Promote **Equity**
- Increase **Regional Cooperation & Government Efficiency**
Future Land Use: Centers-Based
Key Strategies to Create Livable Communities

- Enhance Community Design Standards
- Update Zoning Codes
- Encourage T-O-D
- Develop More Parks & Recreational Opportunities
- Increase Access to Healthy Food
1 region 352 municipalities
Regional Trends:
20th Century Commute
Regional Trends: 21st Century Commute
Social Equity

Employment Centers and Census Tracts with High Poverty

- Employment Center
- Census Tract with High Poverty: More than 20% of households in the tract are below poverty level.
Transportation Investment Priorities:
Funding in the *Connections 2040* Long-Range Plan

$63 Billion between 2014 and 2040

- **75%**: Maintenance & Preservation
- **9%**: System Expansion
- **9%**: Operational Improvements
- **7%**: Bike/Ped/Other
Transportation Funding Gap

**NEED vs. REVENUE: 2014 TO 2040 ($ Billions)**

- **NEED $116.8**
  - PA ROAD $53.2
  - PA TRANSIT $38.8
  - NJ ROAD $16.4
  - NJ TRANSIT $8.4

- **REVENUE $63.5**
  - PA ROAD $26.0
  - PA TRANSIT $18.2
  - NJ ROAD $12.6
  - NJ TRANSIT $6.9
Regional Decision-Making

Scarce Resources

Region’s Priority Transportation Projects
Performance-Based Planning: Project Evaluation Criteria

Part 1: SCREENING CRITERIA:
- Compatibility with the Land Use Plan
- Appropriateness of Widening in the Corridor

Part 2: EVALUATION CRITERIA:
- Serve Plan Centers
- Improve Project Delivery
- Reduce Congestion
- Improve Mobility
- Focus on High-Priority Corridors
- Limit Environmental Impacts
- Improve Goods Movement
- Cost-Effectiveness
Future Forces, Sustainable Transportation Actions, & Networking Transportation
Key Background Reports
FUTURE FORCES

POLITICAL

SOCIAL

ENVIRONMENTAL

TECHNOLOGICAL

ECONOMIC

LIVABLE COMMUNITIES
GROWTH MANAGEMENT
ECONOMIC COMPETITIVENESS
MULTIMODAL TRANSPORTATION
Greater Philadelphia Future Forces

People and jobs moving to walkable communities is the start of a long-term trend.

Increased outsourcing and automation means individuals must create their own economic opportunities.

Continued rise in atmospheric carbon levels lead to significant disruptions from climate change.

Smartphones, apps, and real-time info help people get around using new and existing transportation modes.

An abundance of domestically produced oil and natural gas keeps the cost of energy low.
“The only relevant discussions about the future are those where we succeed in shifting the question from whether something will happen to what would we do if it happened.”

Arie de Geus
Shell International Petroleum Company
The Region’s Forecast: Hotter and Wetter Weather
Flooding Risks to Low-Lying Areas

What-If Scenario
What-If Scenario

Significant Disruptions
Contingent Actions

- Increase intergovernmental coordination
- More funding for infrastructure resiliency projects
- Improve emergency preparedness
- Preserve farmland and promote regional food production
- Invest in alternative energy & move to lower carbon electricity

Source: SEPTA
Leading Indicators

Average Regional Temperature and Days over 90 Degrees Fahrenheit

Annual Regional Sea Level Change


Sources RIGHT: National Ocean and Atmospheric Administration (NOAA) station 8545240, Philadelphia, PA [www.tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml].

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Universal Actions

Build lifelong communities
Data-driven governance
Develop the impact economy
Enhance freight and goods movement
Expand broadband infrastructure
Green infrastructure and stream buffer ordinances
Increase regional transportation funding
Infrastructure resiliency
Immigrant-friendly policies
Megaregional collaboration and cooperation
Mixed-use infill development
Modern, multimodal transportation system
Universal pre-kindergarten and other k-12 programs
Vision Zero
Future Forces vs. Vision

The Region Today

Vision

Future Forces

CONNECTIONS 2045
The Region in 2045
Sustainable Transportation Actions

Key Tools

- Technology
- Markets/Pricing
- Design
- Travel behavior
Design – Land Use

Greenhouse Gas Emissions per Population + Job
Design – Complete Streets

- Wide Sidewalks
- Curb Extension / Dedicated Bus Lane
- Raised Walkways
- Medians
- On-Street Parking Buffer
- Accessible Bike Lanes
- Street Trees
- Street Furniture
Efficient Use of Space

Greater Philadelphia Average Vehicle Occupancy

One full bus can remove up to 40 cars from the roadway network in Greater Philadelphia

1.58 passengers
Technology

- Electric Vehicles
- Electronic Payment
- Personal Travel Apps
- On Demand Ridesharing
- Multimodal Trip Planning
- Carsharing
- TNCs / Ridesourcing
- Real-Time Transit Info
<table>
<thead>
<tr>
<th>Markets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VMT</strong></td>
<td>Drivers are charged by the mile. This can reduce individual VMT by 12 to 15 percent. This is a possible alternative for the gas tax.</td>
</tr>
<tr>
<td><strong>CARBON TAX</strong></td>
<td>Assessed as a tax to fossil fuel distributors. Revenues could be used to develop sustainable transportation infrastructure.</td>
</tr>
<tr>
<td><strong>INSURANCE</strong></td>
<td>Pay-as-you-drive insurance incentivizes car owners to drive less. Pricing insurance in this way is estimated to reduce VMT by 8 percent nationwide.</td>
</tr>
<tr>
<td><strong>TRADABLE DRIVING CREDITS</strong></td>
<td>Each person receives an allotment of miles each year, those who drive fewer miles can sell them to those who drive more.</td>
</tr>
<tr>
<td><strong>PARKING</strong></td>
<td>Varying parking prices by demand can emphasize the financial benefits of using sustainable travel modes.</td>
</tr>
</tbody>
</table>
Sustainable Transportation: What You Can Do

- Live in a Walkable Community
- Walk & Cycle
- Take Transit
- Buy Local, Shop Smart
- Apply Innovation
- Combine Trips
- Share Rides
- Drive Eco-Friendly
- Purchase the Cleanest Vehicle You Can Afford
- Keep a Travel Log
- Maintain Your Auto
- Telecommute
Networking Transportation
The Digital Revolution

Computers  The Internet  Digital Devices  Data Storage  Sensors
Digital Information & Payments
Connected Cities

Source: Nexar

Source: Monnit

Source: Renesys

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Digital Transportation: Sharing

Digital Providers & TNCs
Digital Transportation: CAVs & UASs
TNC Scenarios

A Tale of Two Regions

Cooperative, Partnerships

Slower Growth

Filling a Niche

Individualistic, Fragmented

Faster Growth

TNCs Take Off

Moore Growth
Digital Infrastructure Implications

Multimodal Transportation Hubs

Pick-up / Drop-off Zones
Truck Delivery Areas

Source: www.carsharing.de
Digital Infrastructure Implications

Multimodal / Complete Streets

Reduced Parking Demand
Retrofit Office Parks into Mixed-Use Centers
Digital Infrastructure Implications

Electric Vehicle Charging Stations

Multifunctional Infrastructure

Source: www.inhabit.com
Digital Infrastructure Implications

Digital Information Kiosks

Internet Connected Infrastructure (V-2-V / V-2-I)
Networking Transportation

- Digitization + shared mobility = opportunity to make transportation safer, more efficient, & less costly
- Government needs to coordinate network integration
- Existing service providers can be successful if they are flexible and adaptable
- Funding may rely more heavily on the private market
- Race between shared mobility and HAVs
- Digitization doesn’t change the basic fundamentals of good urban design
New Vision: Integrated, Multimodal Network

Networking transportation will mean more options, increased safety & efficiency, and less congestion.

Government provides flexible oversight, and builds partnerships with private companies and other institutions.
- Ensure low-income and environmental justice communities can access and benefit from new technologies and services.
- Connect infrastructure, and update institutional practices & regulations for a digital world.

Existing transportation services need to be flexible and adaptable to fast changing conditions.

TNCs are receiving substantial venture capital & must grow fast to maintain their value.
- Growth may require changing travel behavior.
- At the same time they face labor, regulatory, cost, and potential technological disruption issues.

In the future, HAVs and UASs may revolutionize passenger and goods movement.
- This promises even greater safety and efficiency, and lower costs.
- The potential loss of driver and other jobs means government must prepare workers for the jobs of tomorrow.
- Achieving the full benefits of HAVs may require separate facilities.
Stakeholder Feedback & Next Steps

- Fall Strategies Workshops
- Futures Group and Automated Vehicles
- Next Steps for the Long-Range Plan
Fall Strategies Workshop

- Nov 2016
- Regional stakeholders
Fall Strategies Workshop

• Future Forces Presentation
• Breakout sessions
Fall Strategies Workshop

- 8 groups
- Facilitated discussion
- 2nd rotation to new topic
How does the region become a leader for incorporating new transportation technologies and emerging private market services?

n = 30 responses
Transportation Funding

How can the region generate enough funding to maintain and improve transportation infrastructure?

n = 62 responses
Economic Growth and Competitiveness

How can we diversify and expand the region’s economy and become more competitive within the global economy?

n = 30 responses
How can we ensure that all children receive a good education that prepares them for the jobs of the future no matter where they live in the region?

n = 62 responses
How can we ensure more equitable outcomes by reducing poverty, while increasing economic mobility and racially and socioeconomically integrated communities?

n = 49 responses
Livable Communities

How can we overcome obstacles or challenges to creating more livable communities?

n = 45 responses
Regional Cooperation & Government Efficiency

How can we increase regional collaboration and government efficiency?

n = 48 responses
What are the keys to mitigating and adapting to climate change?

n = 53 responses
Futures Group Meeting

- Feb 2017
- Industry professionals & experts
- Highly Automated Vehicles
• The Future of Transportation, Econsult Solutions
• Planning For Automated Vehicles, WSP
• Preparing for automated vehicles, PennDOT
If HAVs were available right now, what would be your preferred way to get from this meeting to wherever you are going next?
How much should connected vehicle infrastructure be the focus of planning and near-term deployment?
Futures Group Meeting

What will be the impacts of AV deployment?
What other actions can regional agencies and local governments take to prepare for AV deployment?
Futures Group Meeting

Should the next Futures Group scenario planning exercise recreate future forces, or focus explicitly on AVs?
Long-Range Planning Process

Ongoing Work with Regional Stakeholders to Enact the Plan

Spring / Summer 2015: Identify Trends or "Future Forces" Affecting the Region
Fall / Winter 2015: Consider Likely Outcomes or Impacts
Spring 2016: Engage the Public to Inform Decision-Making
Summer 2016: Develop an Aspirational Vision
Fall 2016 / Winter 2017: Determine Policies & Actions to Achieve the Vision
Spring 2017: Seek Public Review & Comment on the Draft Plan
Summer 2017: Adopt the Plan

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Next Steps for Long-Range Plan

- Finalizing draft needs assessment
- Project Evaluation
- Project Selection
- Conformity
- Public Comment Period (May 2017)
- Final Plan Adopted (July 2017)
QUESTIONS? OR COMMENTS!

www.dvrpc.org/connections2045