Project Prioritization Process
Current DelDOT CTP Prioritization Criteria

- Safety: 33.0%
- System Operating Effectiveness: 5.0%
- Multi-Modal Mobility/Flexibility/Access: 6.5%
- Revenue Generation/Economic Development/Jobs & Commerce: 15.6%
- Impact on the Public/Social Disruption/Economic Justice: 7.2%
- Environmental Impact/Stewardship: 7.9%
- System Preservation: 24.8%
Current Prioritization Criteria

- **Current Quantitative Criteria (70.7%)**:
  - Safety (33%)
  - System Operating Effectiveness (24.8%)
  - Revenue Generation/Economic Development/Jobs & Commerce (7.9%)
  - System Preservation (5%)

- **Current Qualitative Criteria (29.3%)**:
  - Multi-Modal Mobility/Flexibility/Access (15.6%)
  - Impact on the Public/Social Disruption/Economic Justice (7.2%)
  - Environmental Impact/Stewardship (6.5%)
Why consider changes now?

- Current process was adopted in December 2013
- DelDOT’s current investments in data collection allows the opportunity for more “data-driven” process
- Other criteria have evolved, possibly better able to “drive the CTP”
Address Current Federal and State Initiatives

- Setting the course for transportation investment in highways, the FAST Act—
  - Improves mobility on America’s highways
  - Supports economic growth
  - Incorporates Performance Measures
    - Safety
    - Travel Time Reliability/Information from TMC APP
- These goals could be better incorporated in our process
<table>
<thead>
<tr>
<th>Mission</th>
<th>Vision</th>
<th>Goal</th>
<th>Prioritization Criteria</th>
<th>Prioritization Sub–Criteria</th>
</tr>
</thead>
</table>
| Every Trip | We strive to make every trip taken in Delaware safe, reliable and convenient for people and commerce. | • Minimize the number of fatalities and injuries on our system  
• Build and maintain a nationally recognized system benefiting travelers and commerce | • Safety  
• System Operating Effectiveness  
• Priority | – New Safety Scores  
– No. of Strategies addressed in the Strategic Highway Safety Plan  
– Apply TMPC operation data  
– Identified as Congestion Corridors by MPO, Comprehensive Plans, and/or Planning Studies  
– State and Local Priority  
– Multimodal Mobility/Flexibility/Access |
| Every Mode | We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths. | • Provide every traveler with access and choices to our transportation system | • Multimodal Mobility/Flexibility/Access | – Multimodal Mobility/Flexibility/Access |
| Every Dollar | We seek the best value for every dollar spent for the benefit of all. | • Minimize the environmental impact of the state's transportation system  
• Achieve financial sustainability through accuracy, transparency and accountability | • Environmental Impact/Stewardship  
• Revenue Generation and Economic Development | – Environmental Impact/Stewardship  
– Identified in a Transportation Improvement District (TID)  
– Cost–sharing Support  
– Freight Corridor  
– Economic Impact |
| Everyone   | We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths. | • Develop and maintain a place where talented and motivated employees love to work and can be national leaders in transportation | • Impact of the Public/Social Disruption/Environmental Justice | – Social and Health Elements |
Potential CTP Project Prioritization Criteria

Safety

- Apply Safety Scores to all projects
  - Roadway Segments – Critical Crash Ratio
  - Intersections (new) – Crash Index
- No. of Strategies addressed in the Strategic Highway Safety Plan (SHSP)
  - considering removing this criterion
  - Rationale – nearly every project meets at least one emphasis area of the SHSP so this criterion is not helpful in prioritization
- Rationale for revisions
  - More aligned with the DelDOT Goal of “Minimize the number of fatalities and injuries on our system”
  - More aligned with the Strategic Highway Safety Plan
Potential CTP Project Prioritization Criteria

Safety

- **Roadway Segment: Critical Crash Ratio**
  - Three (3) most recent calendar years of fatal and injury crash data for which data is available.
  - Current method considers all crashes in calculations

- **Intersection: Crash Index**
  - Crash Index (CI) based on three (3) most recent calendar years of crash data
  - Methodology developed in coordination with WILMAPCO
  - Values updated every other year in coordination with WILMAPCO
  - \[ CI = (\text{Number of Fatal Crashes} \times 40) + (\text{Number of Injury Crashes} \times 4.5) + (\text{Number of Property Damage Only Crashes} \times 1) \]
Potential CTP Project Prioritization Criteria

- System Operating Effectiveness
  - Existing Congestion Level
    - TMC or TDM
      - Roadway Segment
      - Intersection
  - Identified as Congestion Corridors by MPO, Comprehensive Plans, and/or Planning Studies
  - DelDOT TMC Operation Data
    - Bluetooth Readers
    - Traffic Signal System Detectors
Potential CTP Project Prioritization Criteria
(continued)

- Multi-Modal Mobility/Flexibility/Access –
  - Assess the extent to which the Project addresses transportation choices and allows additional connectivity to the existing system

- Revenue Generation/Economic Development/Jobs & Commerce –
  - Identified in a Transportation Improvement District (TID)
  - Cost-sharing Support
  - Freight Corridor
  - **Economic Impact (Competitiveness)**
How are Economic Impacts measured?

Transportation Improvement

Travel Benefits

Household and Industry Response & Change in Access

Economic Growth (Impact)

Source: TREDIS
How is TREDIS applied?

Transportation Data Input
(Delaware Travel Demand Model)

TREDIS ANALYSIS

Project Result Data

Decision Lens
Economic Impact Assessment

- Project Result Data for Decision Lens Inputs
  - Future year percentage change in employment
  - Future year percentage change in economy
    - XX–year GDP added by the project, divided by the XX–year level of value in the baseline economy
  - Compare the percentage change in employment and economy of each project and rank them accordingly
### TREDIS Sample Inputs

- Baseline and Project–Build cases
- Passenger Vehicles and Trucks
- Annual Trips
- Annual Vehicle–Miles Traveled
- Annual Vehicle–Hours Traveled

#### Table

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Region</th>
<th>Period</th>
<th>Mode</th>
<th>Purpose</th>
<th>Regional Trips Served (vehicle trips, annually)</th>
<th>VMT (vehicle miles of travel annually)</th>
<th>VHT (vehicle hours of travel annually)</th>
<th>Transit Passenger Trips</th>
<th>Transit Passenger Miles</th>
<th>Transit Passenger Hours</th>
<th>Out of Vehicle Passenger Time</th>
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TREDIS Sample Output

2030100001

Project analyzes 1 year of construction and 11 years of operation with results shown for 2030 (Total Impact)

**Travel Impact**
- Project investment of $20M results in travel changes

**Societal Benefit**
- Resulting changes in the transportation system yield benefits of $332.27M

**Economic Impact**
- Project increases Gross Regional Product by $68M

**Jobs by Year**
- Project creates 719 jobs, 29% with above average wages

**Competitiveness**
- Labor Market: 0.00%
- Supply Chain: 0.00%
- Productivity: -0.02%
- Export (Income): 0.09%
How does TREDIS work?

- Travel demand models may show changes in traffic volume, vehicle-miles of travel, vehicle-hours of travel and volume/capacity ratio.
- TREDIS translates such changes into effects on costs, reliability, safety and traffic volumes.
- It incorporates the full industry structure of IMPLAN - an economic input-output model of industry relationships among producers, consumers, and institutions for any given region.
- TREDIS also adds dynamic forecasting of long-term changes in the economy, general equilibrium equations representing labor force and industry cost responses, and transportation effects.
Impact on the Public/Social Disruption/Economic Justice *(Revised)*
- Assess the extent to which the project supports investment in existing communities and provides community enhancements such as sidewalks, safe routes to school, etc.
  - Keep for connectivity purpose
- **Social and Health Elements**
  - EPA EJ Screens
Potential CTP Project Prioritization Criteria (continued)

- **Social and Health Elements** –
  - Base on EPA’s EJ Screen Demographic Indicators ([https://ejscreen.epa.gov/mapper/](https://ejscreen.epa.gov/mapper/))
    - Below are factors to considering
      - Percent low – income**
      - Percent minority*
      - Percent less than high school education
      - Percent in linguistic isolation
      - Percent over age 64
      - Percent under age 5

*= Per USDOT Environmental Justice Strategy (November 15, 2016)
Potential CTP Project Prioritization Criteria
(continued)

- Environmental Impact/Stewardship –
  - Assess the extent to which the Project mitigates the threat or damage to the environment, including Air Quality

- **System Preservation (Delete)**
  - Assess the extent to which a project contributes towards system preservation and is identified through an existing preservation program
  - DelDOT currently has a system preservation program for bridge, roadway pavement, signage, etc
Priority (New)

- Delaware Strategies for State Policies and Spending
  - Prepared by Delaware Office of State Planning Coordination
  - Approved by Cabinet Committee on State Planning Issues
- Local Priority: Top fifteen projects identified by Delaware MPOs and Sussex County that are supported by the local and/or state planning efforts could be given a higher weight in Decision Lens
  - Top fifteen (15) Local Priority Projects will be scored.
Potential CTP Project Prioritization Criteria (continued)

- **Four Types of Investment Levels for Transportation**
  - **Level 1:** Investment Level 1 Areas are often municipalities, towns, or urbanizing area
  - **Level 2:** Less developed areas within municipalities; near Level 1 areas and rapidly growing areas in the counties
  - **Level 3:** Lands that are adjacent to or intermingled with fast-growing areas within counties or municipalities
  - **Level 4:** Rural in nature, open space/natural areas and agricultural industry
Potential CTP Project Prioritization Criteria
(continued)

- Typical Level 1 and 2 area Transportation Investment:
  - Preserving existing facilities
  - Safety improvements
  - Context-sensitive transportation
  - System Capacity Enhancements
  - Transit system enhancements
  - ADA accessibility; closing gaps in the pedestrian system, including the Safe Routes to School projects.
  - Bicycle facilities
  - Signal–system enhancements
  - Interconnectivity of neighborhoods, and public facilities
Potential CTP Project Prioritization Criteria (continued)

- **Typical Level 3 Transportation Investment:**
  - Focus on regional movements between towns and other population centers.
  - Developers and property owners will make local roadway improvements.
  - Lower priority to transportation system-capacity improvements and transit-system enhancements.

- **Typical Level 4 Transportation Investment:**
  - Preserve and maintain existing facilities in safe working order.
  - Corridor–capacity preservation.
  - Enhancement of transportation facilities to support agricultural business.
Question?