AGENDA

- ➢ Approval of the Agenda
- ➢ Approval of the Minutes
- ➢ Department Update
- ➢ Review Proposed CTP Project Prioritization Criteria
- ➢ Review Draft FY21 – FY26 CTP
- ➢ Approve Draft and Prioritization Criteria for Public Comment (Action Item)
- ➢ Public Comment

Department Update

Excellence in Transportation
Every Trip. Every Mode. Every Dollar. Everyone.

- **Every Trip**
  - We strive to make every trip taken in Delaware safe, reliable and convenient for people and commerce.

- **Every Mode**
  - We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths.

- **Every Dollar**
  - We seek the best value for every dollar spent for the benefit of all.

- **Everyone**
  - We engage and communicate with our customers and employees openly and respectfully as we deliver our services.

DelDOT's FY2020 Initiatives

- Creation of Cooperative Automated Transportation Section
- Expanding DMV and DTC Customer Service
- Increase efforts regarding Anti-Dumping/Anti-Littering
- Continue efforts with Pedestrian Safety Council
- Five Points Working Group Continuation
- Utility Coordination Working Group

MAKING JOBS A PRIORITY

TIIF — Transportation Infrastructure Investment Fund

Providing economic assistance to the Department of Transportation for renovation, construction, and other improvements to roads and infrastructure.

TIIF Goals:
· **Attract new businesses to Delaware**
· **Expand existing Delaware businesses**
· **Create jobs**

Senate Bill 61

Transportation Trust Fund

FY2020 – Sources of Funds – $1.036B

Pie chart showing FY2020 Sources of Funds:
- DelDOT OP (GF) $5.0 — 14%
- I-95 Tolls, $146.4 — 6%
- SR-1 Tolls, $65.0
- DMV Revenues, $221.2 — 21%
- Motor Fuel Tax, $145.8 — 14%
- Interest, $4.0
- Bond Proceeds, $128.6 — 12%
- DTC Fare Box, $27.5
- Federal Funds, $280.0 — 27%
- Msc. Revenue, $12.6
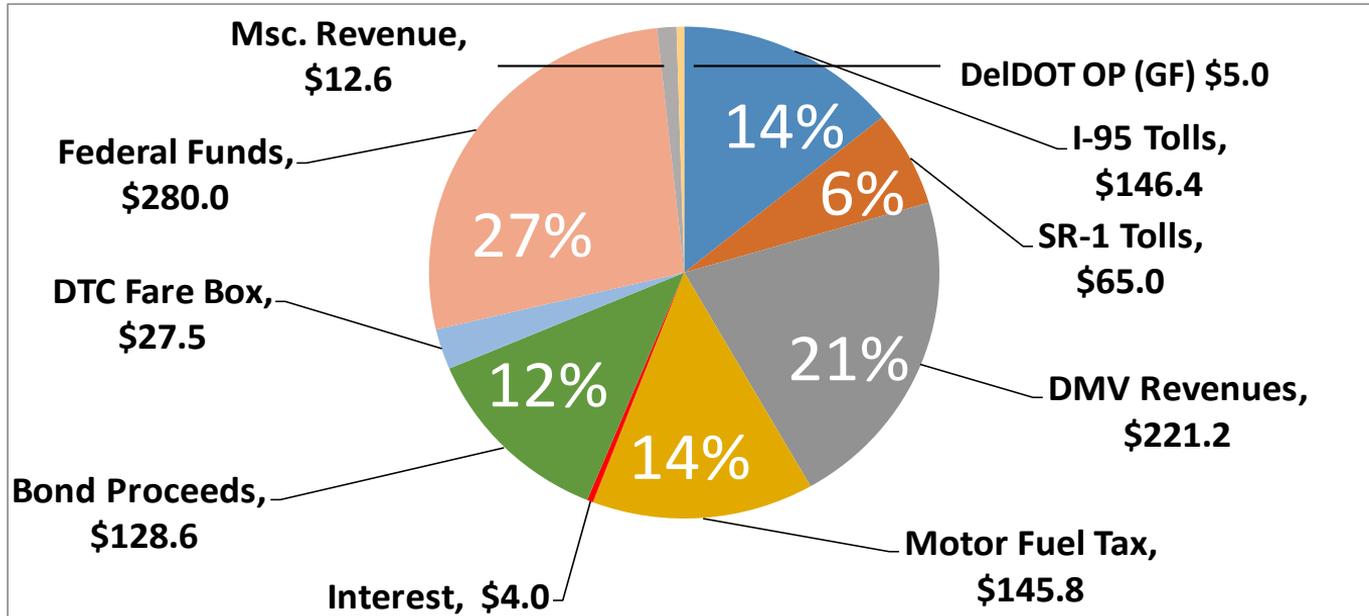
Trust Fund Revenues

Revenues	FY14	FY15	FY16	FY17	FY18	Unaudited FY19	FORECASTED - JUNE 2019 DEFAC					
							FY20	FY21	FY22	FY23	FY24	FY25
Motor Fuel Tax	116.9	119.6	126.5	132.1	132.9	144.4	145.8	147.3	148.8	150.3	151.8	153.3
Toll Roads	170.0	176.1	192.3	197.4	197	208.9	211.4	213.8	216.4	218.9	221.2	223.5
DMV Revenues	160.3	171.0	198.1	211.0	211.1	218	221.2	224.4	227.7	231	234.4	237.7
	447.2	466.7	516.9	540.5	541.0	571.3	578.4	585.5	592.9	600.2	223.5	614.5
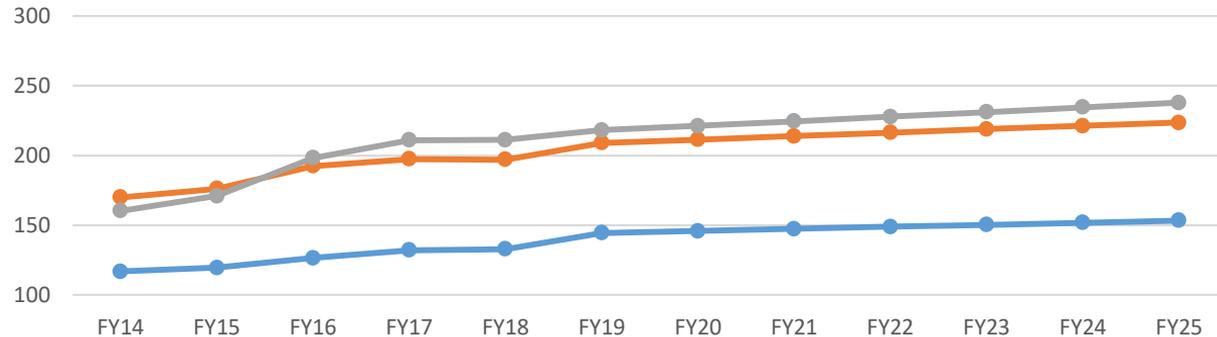
Motor fuel Tax   DMV Revenues   Toll Roads

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FY2020 – Uses of Funds – $1.036B

DelDOT OP (GF) $5.0

DTC Operations, $122.3 — 12%

DelDOT OP (GF) $5.0 — 9%

Debt Service, $91.5 — 16%

DelDOT Operations, $165.9

Federal Capital, $280.0 — 27%

State Capital, $371.4 — 36%
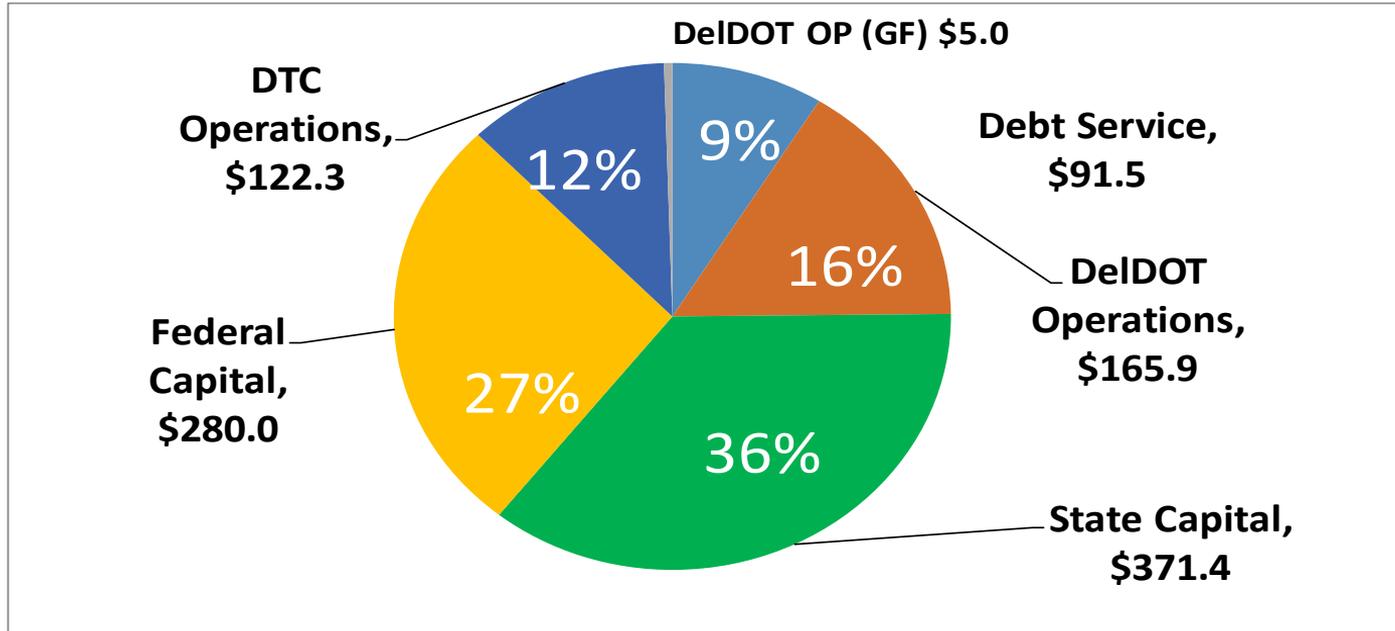
FY2020 – US301 Sources and Uses of Funds
(in millions)

SOURCES - US301 TOLL REVENUES $17.7M

USES -

- Toll Stabilization Fund, $4.4 — 25%
- Operations, $3.1 — 17%
- Debt Service, $10.2 — 58%
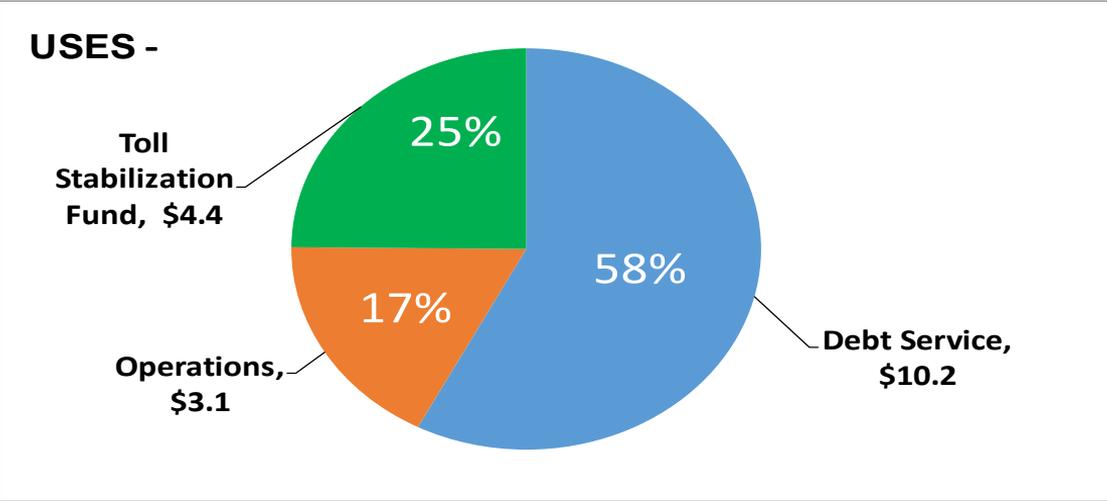
Debt–Service as a % of Revenue
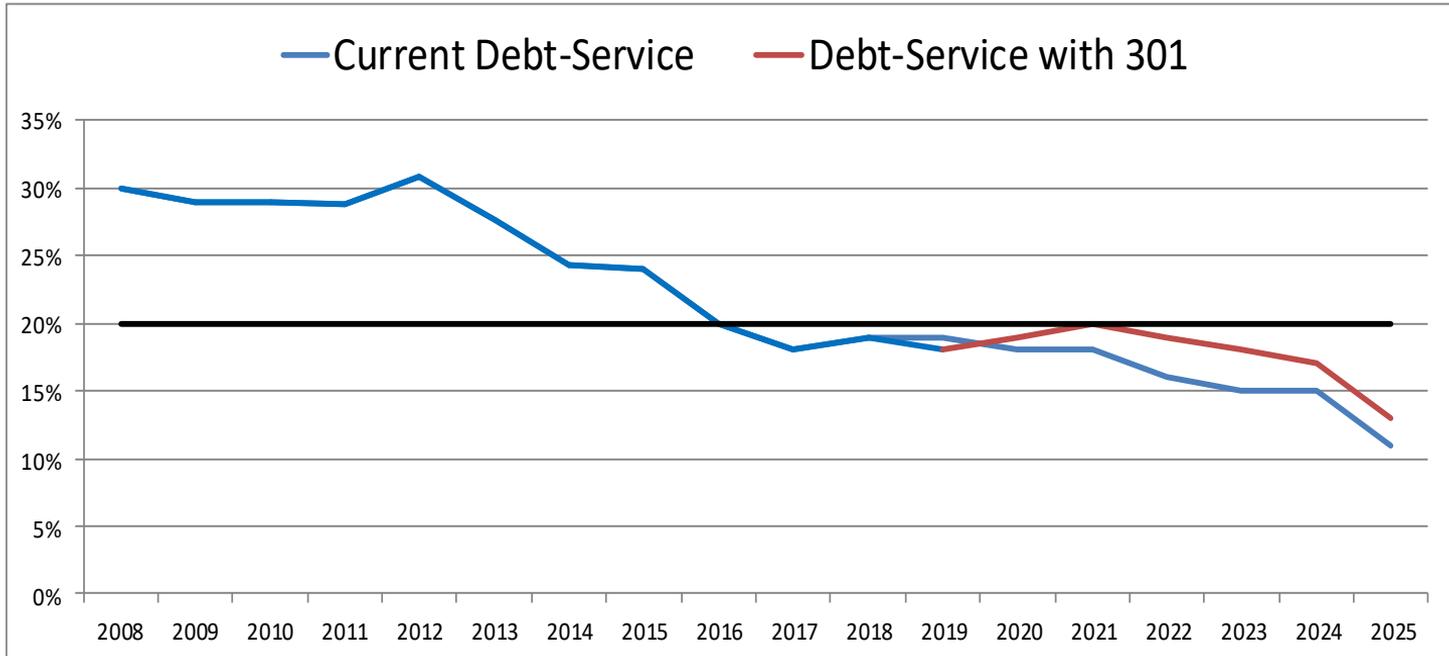
Capital Budget

FY2020 – State Capital Categories - $371.4M
(in millions)

Support Systems, $55.6 — 15%

Grants & Allocations, $38.3 — 10%

Transit, $41.2 — 11%

Road Systems, $236.3 — 64%
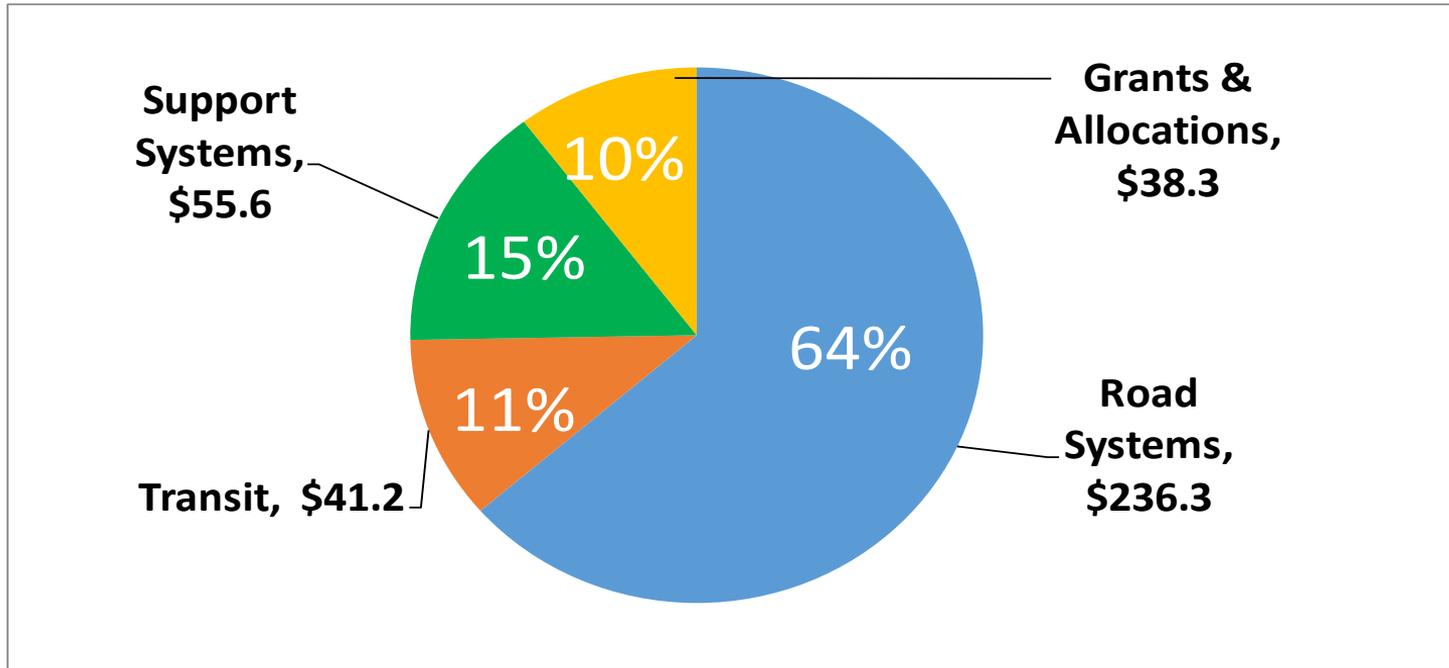
Project Prioritization Criteria

Prioritization Criteria

▸**Proposed Quantitative Criteria (77.2%):**

 o**Safety (35.0% from 33.0%)**

 o**System Operating Effectiveness (19.1% from 24.8%)**

 o**Revenue Generation/Economic Development/Jobs & Commerce (13.1% from 7.9%)**

 o**Social and Health Elements (3.9%)**

 o**State and Local Priority (6.1% from 5% of System Preservation)**

UPDATED !

▸**Proposed Qualitative Criteria (22.8%):**

 oMulti–Modal Mobility/Flexibility/Access (11.9%)

 oImpact on the Public/Social Disruption/Economic Justice (4.3% from 7.2%)

 oEnvironmental Impact/Stewardship (6.6% from 6.5%)

▸**Current Quantitative Criteria (70.7%):**

 oSafety (33%)

 oSystem Operating Effectiveness (24.8%)

 oRevenue Generation/Economic Development/Jobs & Commerce (7.9%)

 oSystem Preservation (5%)

▸**Current Qualitative Criteria (29.3%):**

 oMulti–Modal Mobility/Flexibility/Access (15.6%)

 oImpact on the Public/Social Disruption/Economic Justice (7.2%)

 oEnvironmental Impact/Stewardship (6.5%)

Social Determinants of Health (SDoH)

*"State innovation models are exploring connections among health care, social services, . . . **transportation,** housing, and food with the assumption that outcomes and cost will improve.*

Sources: "County Health Rankings & Roadmaps".
https://www/countyhealthrankings.org/our-approach.

National Academy of Medicine
https://www.nam.edu/social-determinants-of-health-101

17
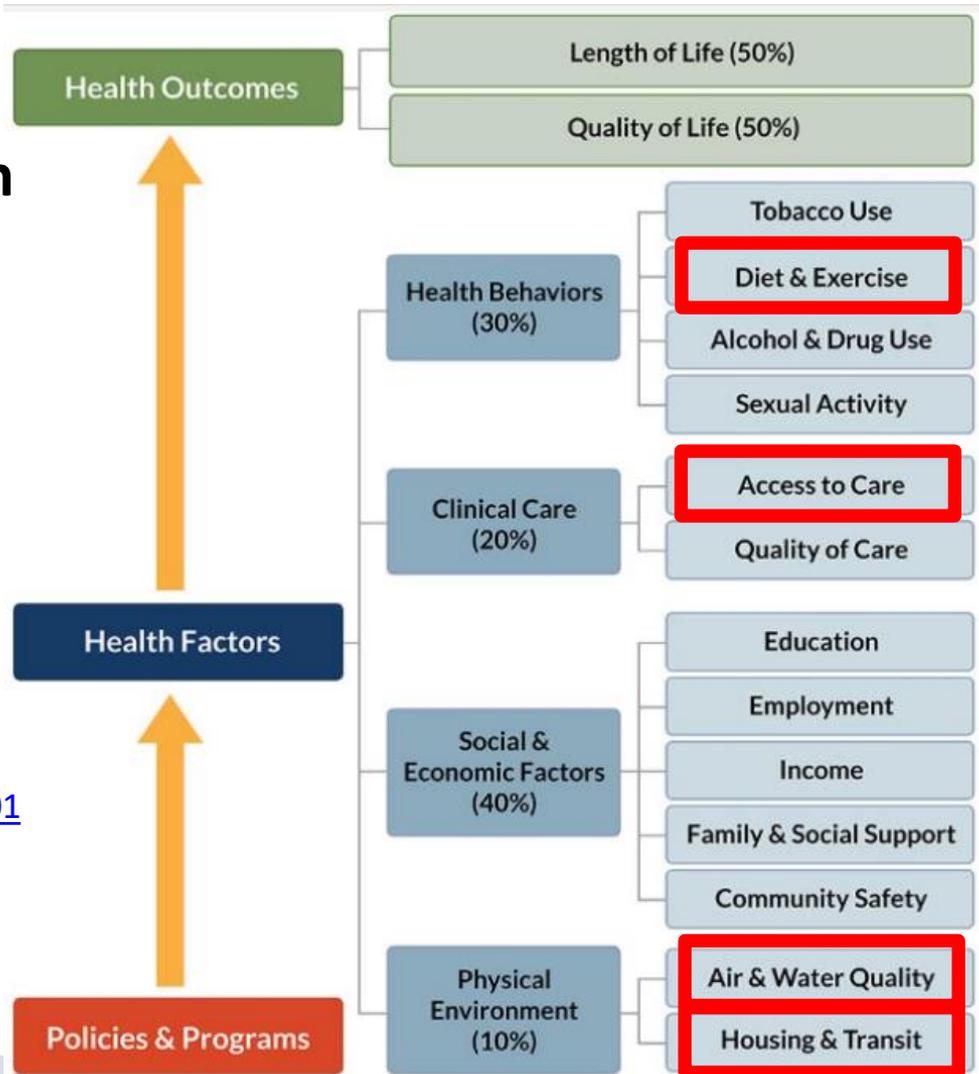
How does TREDIS work?

o   Travel demand models may show changes in traffic volume, vehicle-miles of travel, vehicle-hours of travel and volume/capacity ratio.

o   TREDIS translates such changes into effects on **costs, reliability, safety and traffic volumes.**

o   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.

Supply Chain Analysis

- **Commodity flows and industry dependence**
- **MAP-21: Economic context of freight transportation planning**
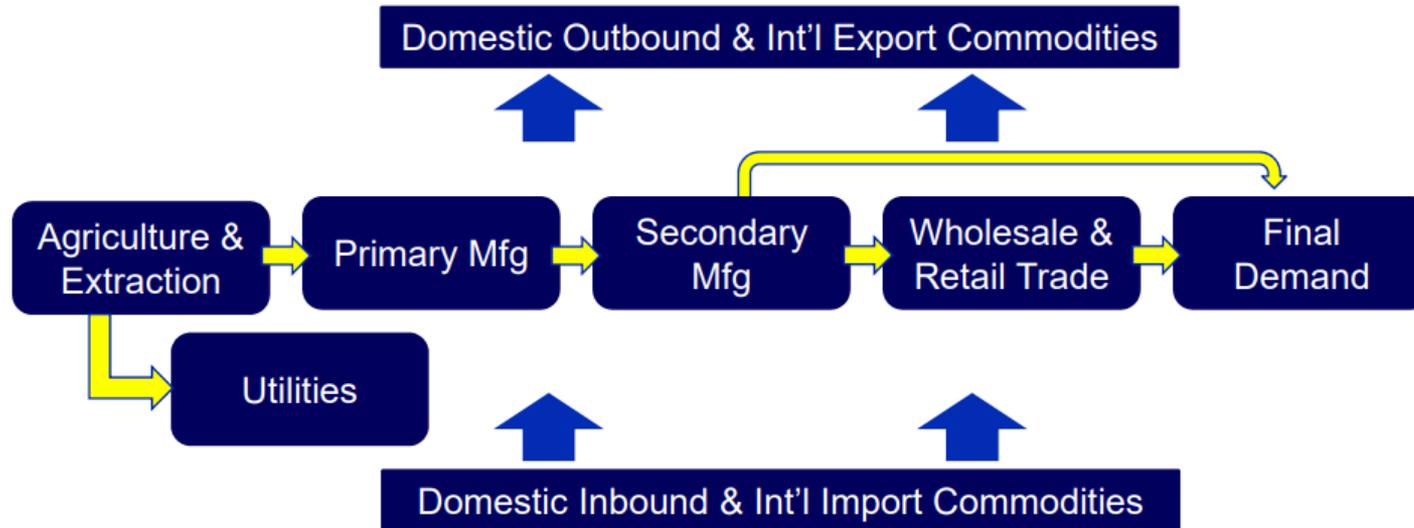
Domestic Outbound & Int'l Export Commodities

Agriculture & Extraction → Primary Mfg → Secondary Mfg → Wholesale & Retail Trade → Final Demand

Utilities

Domestic Inbound & Int'l Import Commodities

TREDIS

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How is TREDIS applied?

Transportation Data Input
(Delaware Travel Demand Model)

↓

TREDIS ANALYSIS

↓

Project Result Data → Decision Lens
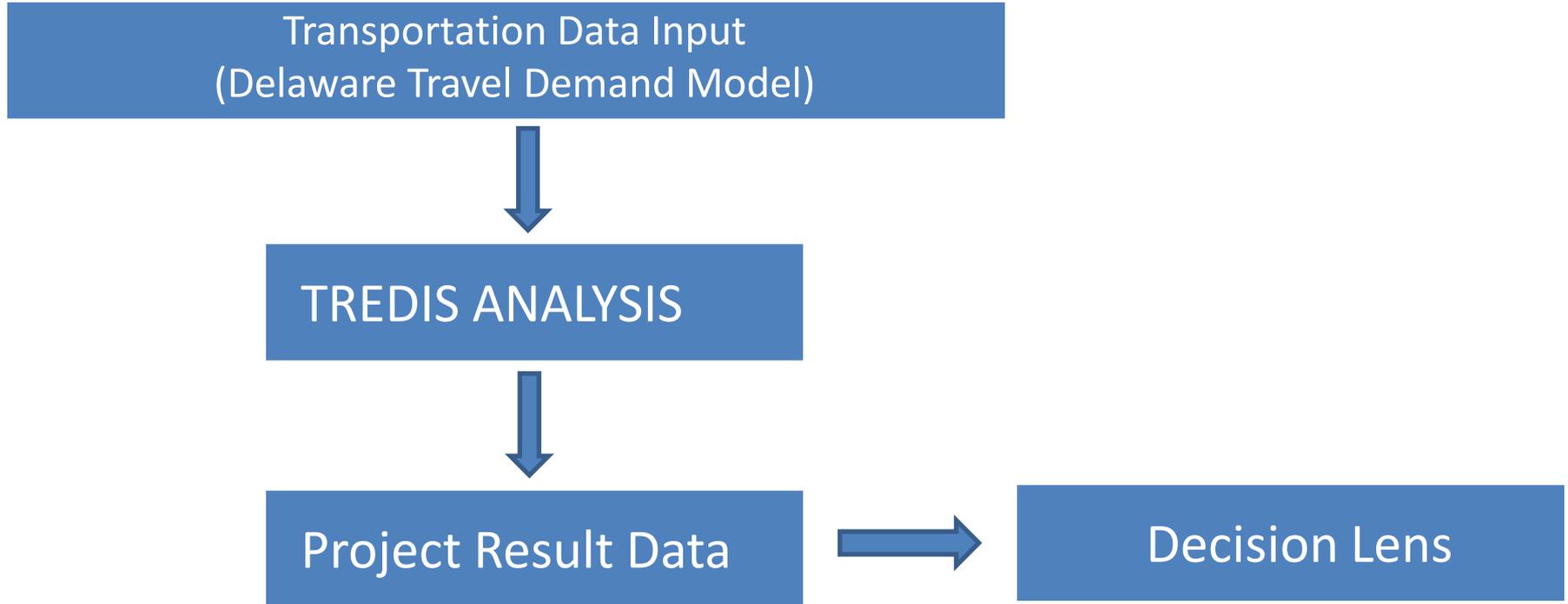
Economic Impact

Economic Impact Analysis (EIA), in its common form, portrays the expected change in the economy of a designated area (region, state or nation) at future points in time. For transportation projects, this can be useful for identifying both the short-term and long-term consequences of projects.

- Short-term consequences tend to be those associated with construction activities.
- Long-term consequences tend to be those associated with cumulative economic growth generated in future years because of changes in productivity and competitiveness (attributable to changes in transportation conditions)

Social welfare gains

GDP gains

Benefit/Cost Analysis (BCA)

Economic Impact Analysis (EIA)

Spring 2020

Fall 2019

Productivity Factors
- Business –Related Time Cost
- Operating Cost
- Access/Agglomeration
- Reliability/Technology Adoption & Labor/Resource Utilization
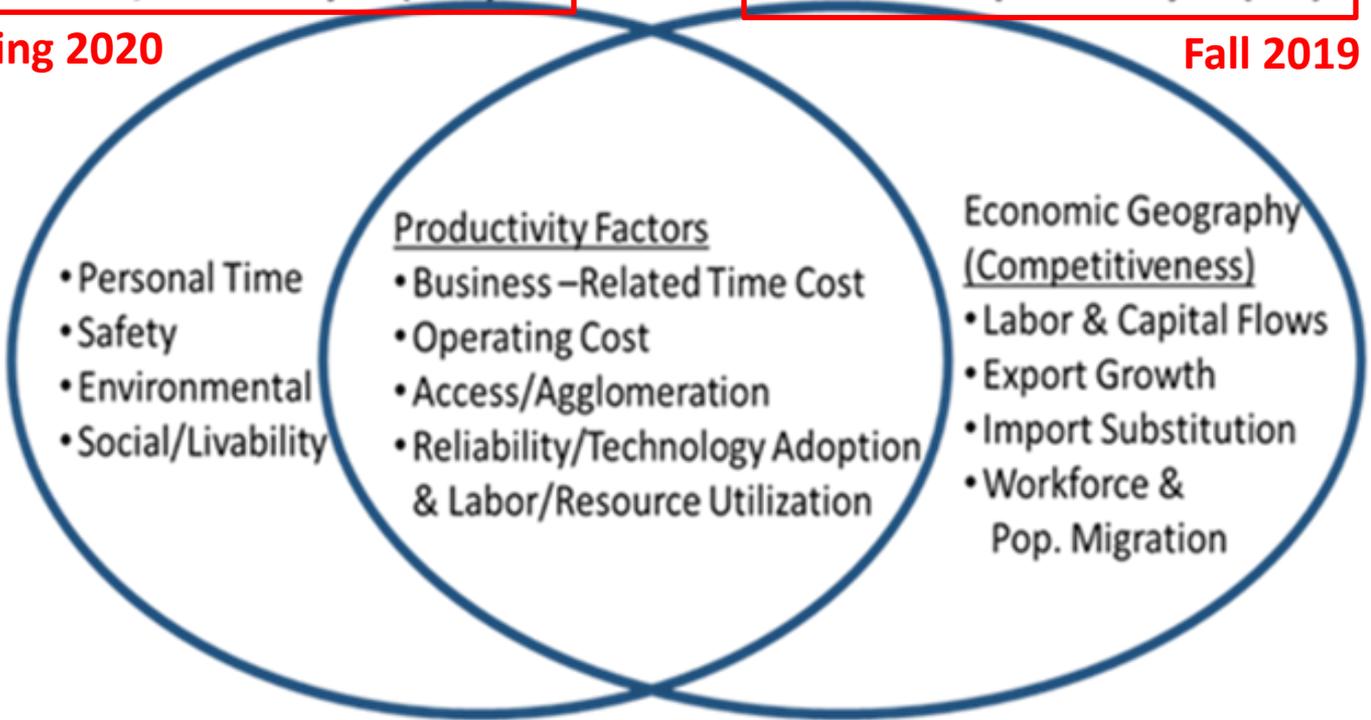
- Personal Time
- Safety
- Environmental
- Social/Livability

Economic Geography (Competitiveness)
- Labor & Capital Flows
- Export Growth
- Import Substitution
- Workforce & Pop. Migration

Value of non-money benefits

Cost saving economies + scale economies (output/cost)

Economic development effects

Source: TREDIS

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Connecting the Dots

```
Travel
Inputs     →    Economic
                Analysis    →    Interpret
                                 Results
```

Project Type	Primary Changes in Travel	
Adding a Lane	VHT ↓	Congestion ↓
Limited Highway	VHT ↓	VMT ↑
Connector	VMT ↓	VHT ↓
Freight Rail Capacity	VHT ↓	Congestion ↓
Psgr Rail Capacity	VHT ↓	Congestion ↓

Source: TREDIS

TREDIS Fueled by Transearch

- **Commodity Flows: Available at state, region, county, and corridor level**

Show routes with highest truck units

Show routes carrying highest commodity value

Show routes carrying carrying highest tonnage

Filter Routes

Study Region:	Default Region
County:	All Counties
Route Type:	All Route Types

County Name	Route Type	Route Sign	Value ($M)
Rock County	Interstate Highway	I90	154,922
Dane County	Interstate Highway	I90	149,626
Dane County	Interstate Highway	I94	149,626
Dane County	US Route	U51	141,394
Columbia County	Interstate Highway	I94	137,893
Columbia County	Interstate Highway	I90	137,893
Monroe County	Interstate Highway	I94	129,724
Juneau County	Interstate Highway	I90	129,724
Juneau County	Interstate Highway	I94	129,724

Example: Two Roads with Similar

Annual Trucks (Thousands)

SH 33
SH 181

- 20 40 60 80 100 120 140
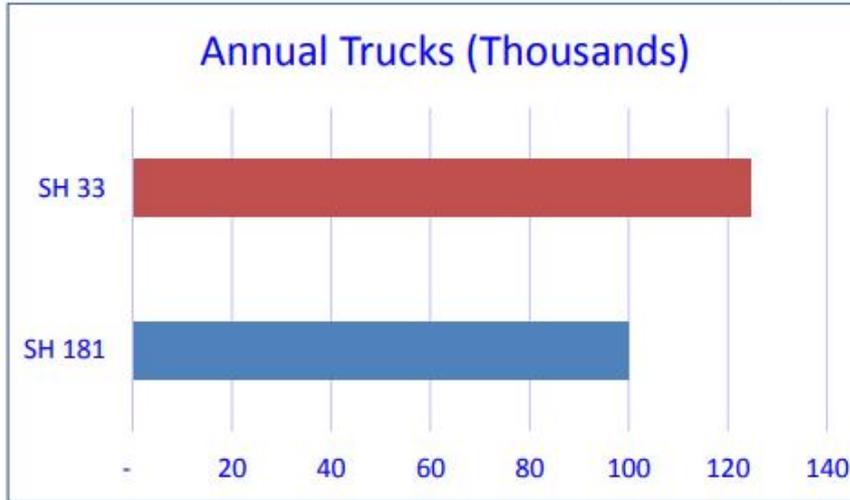
Corridor Characteristics

Annual Truck (Thousands, Directional Flow)

(Similar example: I-95 in DE.)

SH 33	
H 181	

Scale: - 20 40 60 80 100 120

■ Internal ■ Inbound ■ Outbound ■ Through

State Highway 33: Top 5 Commodities

- ■ Farm Products
- ■ Food or Kindred Products
- ■ Secondary Traffic
- ■ Petroleum or Coal Products
- ■ Fabricated Metal Products
- ■ Rest of Commodities

22% 33% 5% 8% 10% 22%
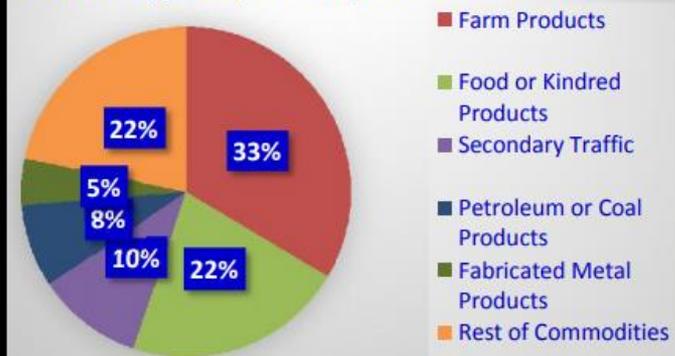
State Highway 181: Top 5 Commodities

- ■ Nonmetallic Minerals
- ■ Farm Products
- ■ Food or Kindred Products
- ■ Secondary Traffic
- ■ Clay,concrete,glass or Stone
- ■ Rest of Commodities

26% 19% 17% 10% 13% 15%

DelDOT model able to estimate and apply "cost value ranges" to different types & lengths of truck trips.
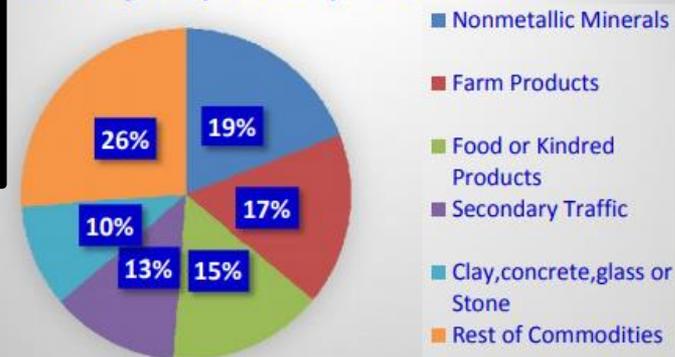
Delaware Travel Demand Model
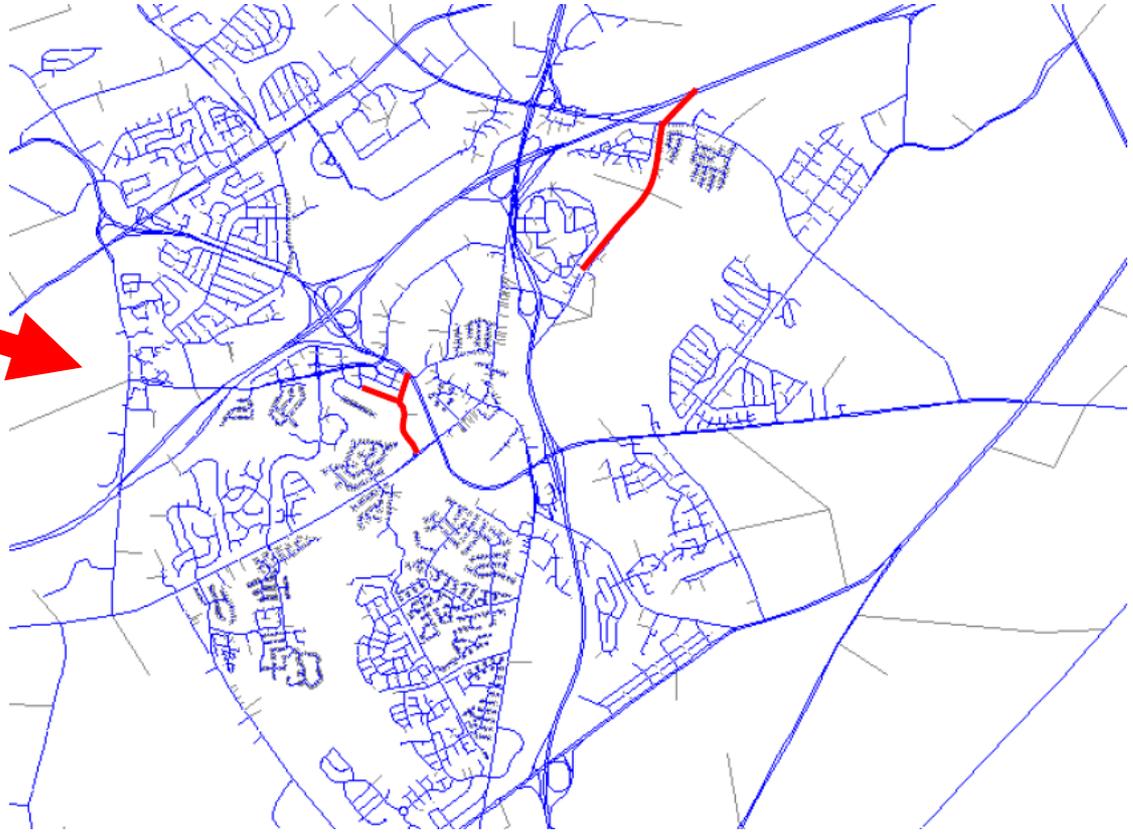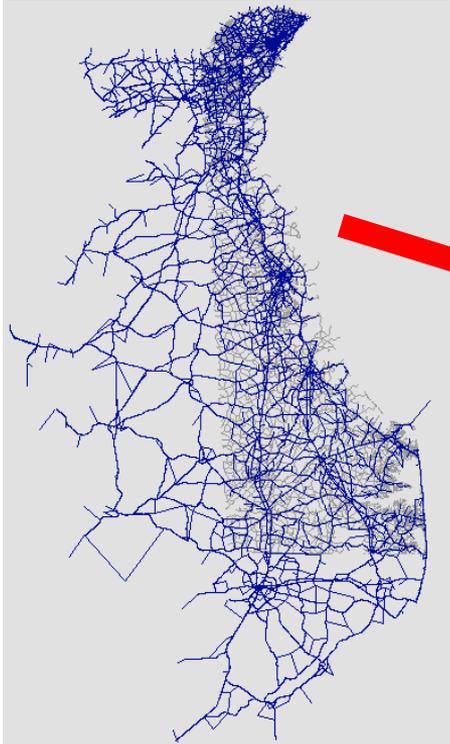
TREDIS Example: Historical Case #2 – I-95/SR 1 Ramps

Travel Impact

Project investment of
$250M
results in travel changes ➡️

Societal Benefit

Resulting changes in the
transportation system yield
benefits of
$9.58M ➡️

Economic Impact

Project increases
Gross Regional Product by
$2M ➡️

Jobs by Year

Project creates
17 jobs, **32%**
with above average wages

Travel Impact bar chart: Trips, VMT, VHT

Societal Benefit chart:
- Traveler Benefits
- Environmental Social Benefits
- Wider Economic Benefits

Economic Impact pie chart: Rest, Finance, Manufacture, Retail, Ed/HC, Business

Jobs by Year line chart
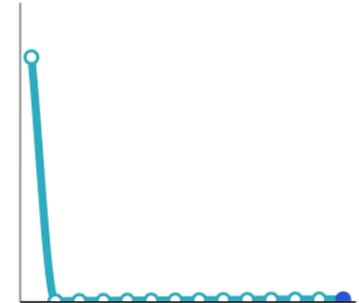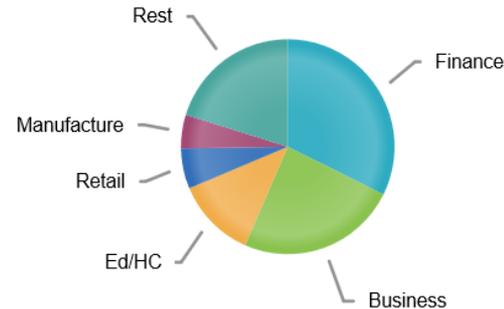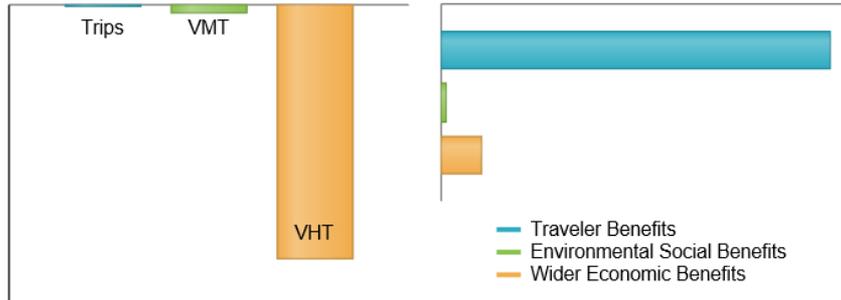
Economic Impact Assessment

▸ Project Result Data for Decision Lens Inputs

◦ 50% – Future year percentage change in employment
◦ 50% – 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 by county**

◦ **Selected Sussex County Projects for Demo**

TREDIS Sample Inputs

o Baseline and Project–Build cases
o Passenger Vehicles and Trucks

o Annual Trips
o Annual Vehicle–Miles Traveled
o Annual Vehicle–Hours Traveled

Save

Data Year
2030 ⌄

X

Required Inputs	Occupancy	Congestion and Flow	Taxes, Fees, Tolls	Other

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 **2030**

X Cancel Changes

Alternative	Region	Period	Mode	Purpose	Period Veh-Trips	Period VMT	Period VHT	Transit Passenger Trips	Transit Passenger Miles	Transit Passenger Hours	Out of Vehicle Passenger Time
Base	Default Region	Annual	Passenger Car	All	115,972,878	1,398,006,532	31,246,245				
Base	Default Region	Annual	All Trucks	Freight	8,510,679	144,375,861	3,133,847				
Project	Default Region	Annual	Passenger Car	All	115,984,437	1,393,965,406	31,190,691				
Project	Default Region	Annual	All Trucks	Freight	8,506,836	143,784,758	3,123,104				

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Conceptual Approaches for Economic Impact Models
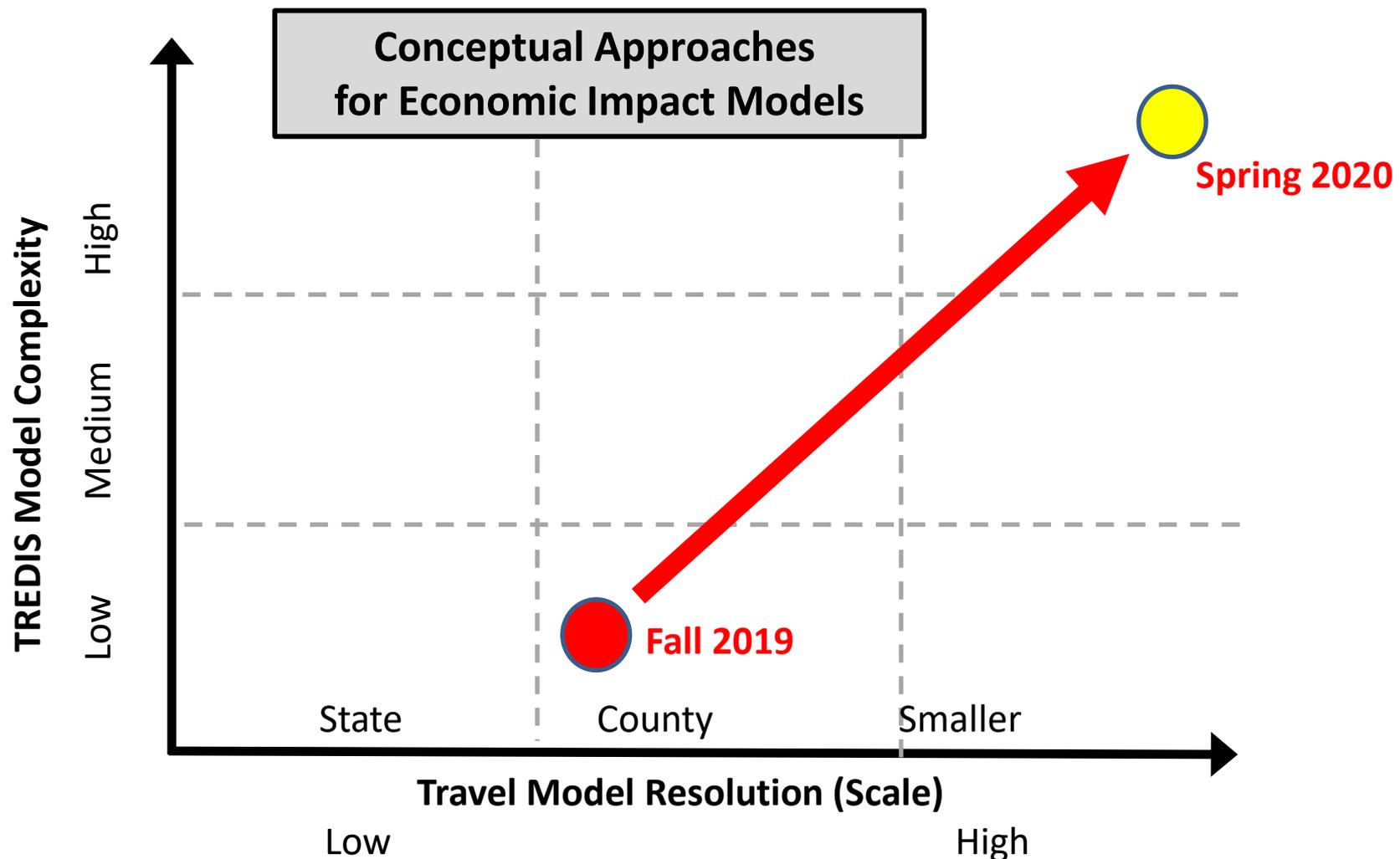
Project Prioritization – an Evolving Process:

Recall: Two Key Components:
      1) 7 Criteria, with Corresponding Weights & Application Method
      2) For Each Criterion, Input Data & Technical Analysis.

Example:

Current Process: **System Operating Effectiveness**	**Proposed Process:** **Existing Congestion Level**		
		Fall 2019	**Fall 2022**
Travel Demand Model	TIS	~10%	~10%
	TMC Devices	**~25%**	**~40%**
	Travel Demand Model	~50%	~35%
		85%	85%

Project Prioritization – an Evolving Process:

Example:

Current Process:	Proposed Process:		
Economic Development	**Economic Impact (TREDIS)**		
		Fall 2019	**Spring 2020**
TID	Economic Impact Analysis (EIA)	🟢	🟢
Cost Share Support	Benefit/Cost Analysis (BCA)		🔴
Freight Route Corridor	Refined TDM Output:		
	Trucks by Type		🔴
	Trucks by Distance		🔴
	Bike & Ped Trips		🔴
	Transit		🔴
	Zip Code-Based		🔴
	Trip Purposes		🔴

Proposed CTP Project Prioritization Criteria

o**Proposed Project Prioritization Criteria Timeline**
- oCOT Endorsement Fall 2019
- oPublic Comment Fall/Winter 2019
- o**COT Approval Spring 2020**

o**FY 21–26 CTP**
- oSpring/Summer 2019 application of new project prioritization criteria
- oCOT releases draft FY 21 -26 CTP Fall 2019
- oFY 21 – 26 CTP Public Comment in Fall/Winter of 2019
- o**COT Approval Spring 2020**

o**FY 23–28 CTP**
- oSpring/Summer 2021 application of new project prioritization criteria
- oCOT releases draft FY 23 -28 CTP
- oFY 23 – 28 CTP Public Comment in Fall/Winter of 2021
- o**COT Approval Spring 2022**

Proposed CTP Timelines

	2019		2020				2021				2022				2023	
	July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April
Proposed New CTP Criteria																
Continuous Development of CTP Criteria (GIS, Travel Demand Models, etc.)																
Proposed FY 21 - 26 CTP																
Proposed FY 23 - 28 CTP																

DelDOT Continuous CTP Development	DelDOT Criteria Review and Assigned	Preparing Draft with MPOs and Localities	Hosting Public Workshops and Receiving Public Comment	COT Approval of CTP or CTP Release for Public Comment	COT Approval of CTP or CTP Release for Public Comment

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Continuous CTP Tools Development

o Priority Process is Core Part of **Planning's Annual Work Program**

o **Geographic Information System**
- o Data from TMC, EPA, and etc.
- o Data import/export, Decision Lens integration.
- o Higher-resolution TREDIS applications.

o **Travel Demand Model**
- o Improving Intersection level modeling
- o Higher resolution geographic scale modeling

o **Documentation / Methods / Website Content**

Draft FY21 – FY26 CTP – New Projects

- **New Castle**
  - East 7th Street
  - 12 St. Connector
  - S. College Ave. Gateway
  - Maryland Ave. and Monroe St. (Maryland Ave./Monroe St./MLK Area)
  - SR 4 and Churchmans Rd Intersection Improvement
  - US 13: I–495 to PA Line

Draft FY21 – FY26 CTP – New Projects

- Kent
  - Duck Creek Parkway (Bassett St. to Main St.)
  - N. Main St. Smyrna – Shoulders (Duck Creek Parkway to Glenwood Ave.)
  - Peachtree Run Rd. (Voshells Mill Rd. to Irish Hill Rd.)
  - SR 15 and SR 42 Intersection Improvements

Draft FY21 – FY26 CTP – New Projects

- Sussex
  - Beaver Dam Rd Widening (SR 1 to Dairy Farm Rd.)
  - Dewey Beach Pedestrian and ADA Improvements (Anchors Way to Bayard Ave.)
  - SR 1 Fenwick Island Sidewalk (Lighthouse Rd. to Lewes St.)
  - SR 54 Multi-modal Improvements (Blue Beard Trail to Monroe Ave.)
  - US 9 Widening (Ward Ave. to Old Vine Blvd.)

Proposed FY21 – FY26 Capital Program

- Minor changes to projects names, project scope, projects schedules and budgets
  - Adjustments to schedules based on refinement of project scope

  - Adjustments to estimates based on more detailed project information

CTP Hearings

- New Castle County
  - September 16, 2019
  - Newark Free Library, Newark
- Kent County
  - September 23, 2019
  - DelDOT Administration Building, Dover
- Sussex County
  - September 25, 2019
  - DelDOT South District Administration Building, Georgetown

CTP Next Steps

▸ **September 6, 2019:** Publish Draft FY 21-26 CTP

▸ **September:** Hold CTP Hearings

▸ **October 7, 2019:** Public Comment Period Closes

▸ **December:** COT Meeting to Review Hearing Comments

▸ **February:** COT Meeting to Adopt FY 21-26 CTP

Public Comment

Adjourn