



Optimized Freight Movement Project

September 8, 2020

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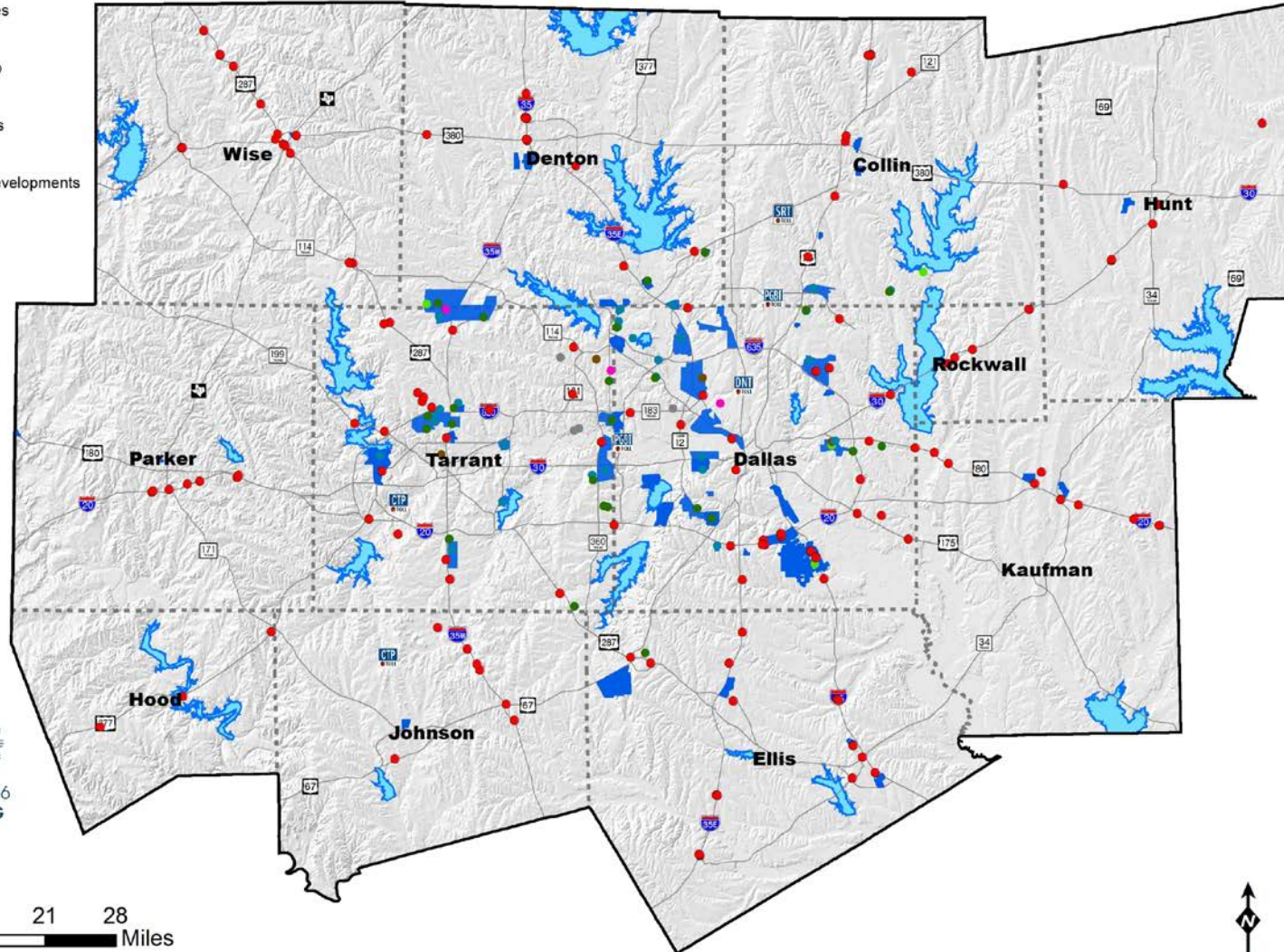
Senior Program Manager, Automated Vehicles



North Central Texas Major Freight Facilities

Legend

- Truck Stops
- Foreign Trade Zones
- Industrial Parks
- Parcel Delivery Hub
- Pipelines Terminals
- Intermodal Facilities
- Major Airports
- Freight Oriented Developments



DFW, an inland port

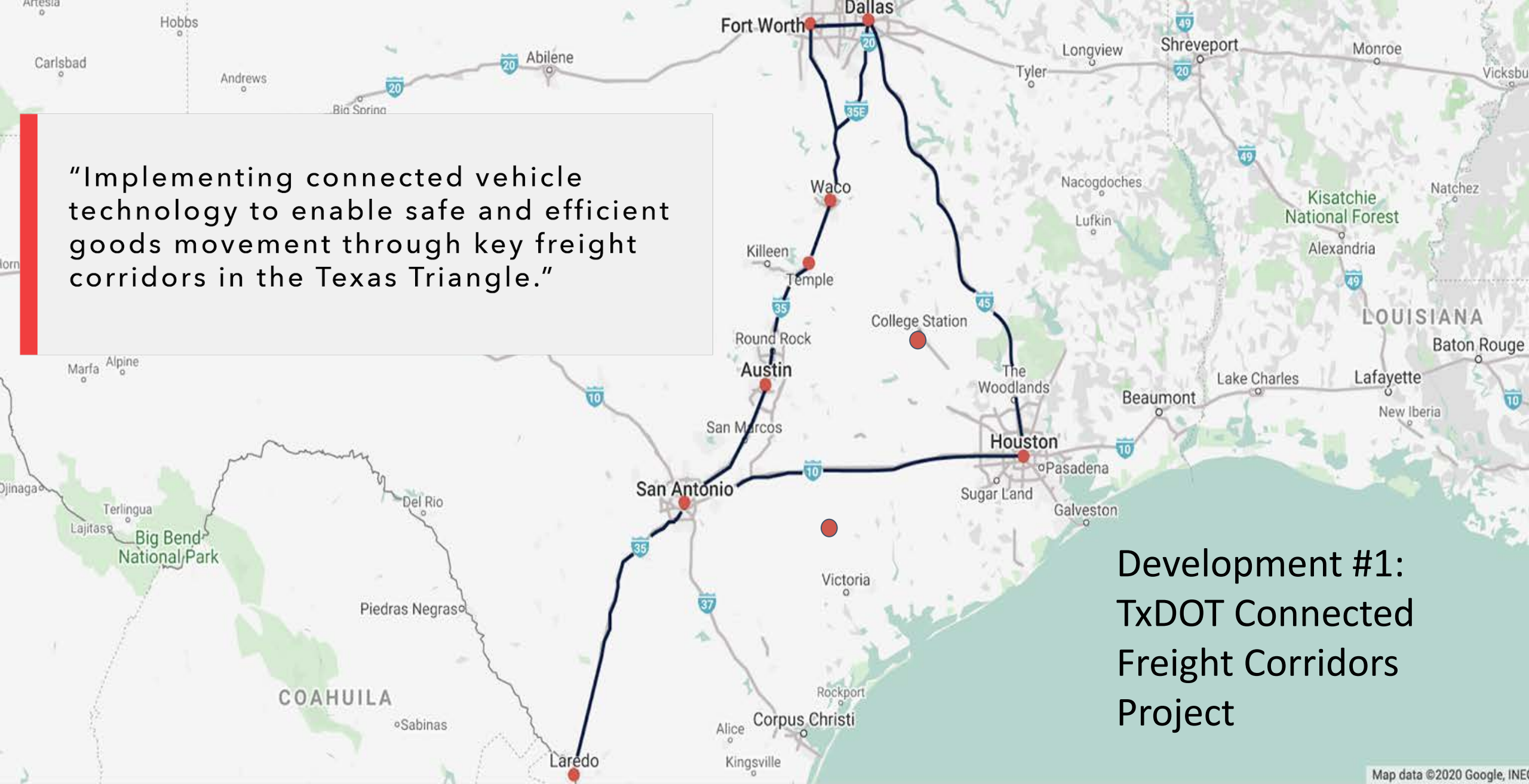
Freight hubs linked to expressways

Connections signalized

Optimizing truck flow = opportunity

Truck Travel Time
Reliability (PM3) Support

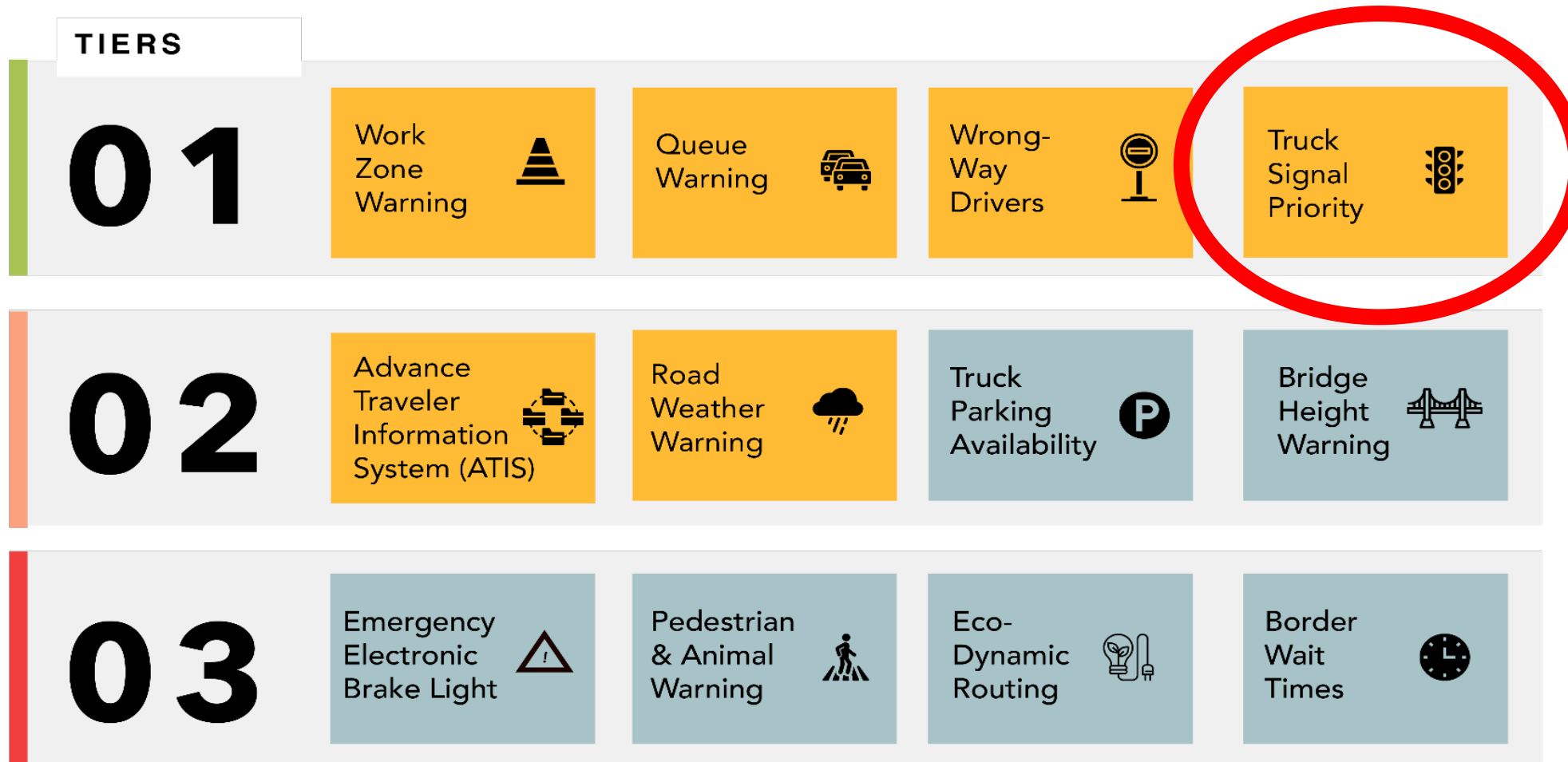
"Implementing connected vehicle technology to enable safe and efficient goods movement through key freight corridors in the Texas Triangle."




Development #1:
TxDOT Connected
Freight Corridors
Project

Map data ©2020 Google, INE

Optimization = Freight Industry Priority



 = Highlighted applications are prioritized for development

Truck Delay Cost: ~\$1.20/Minute

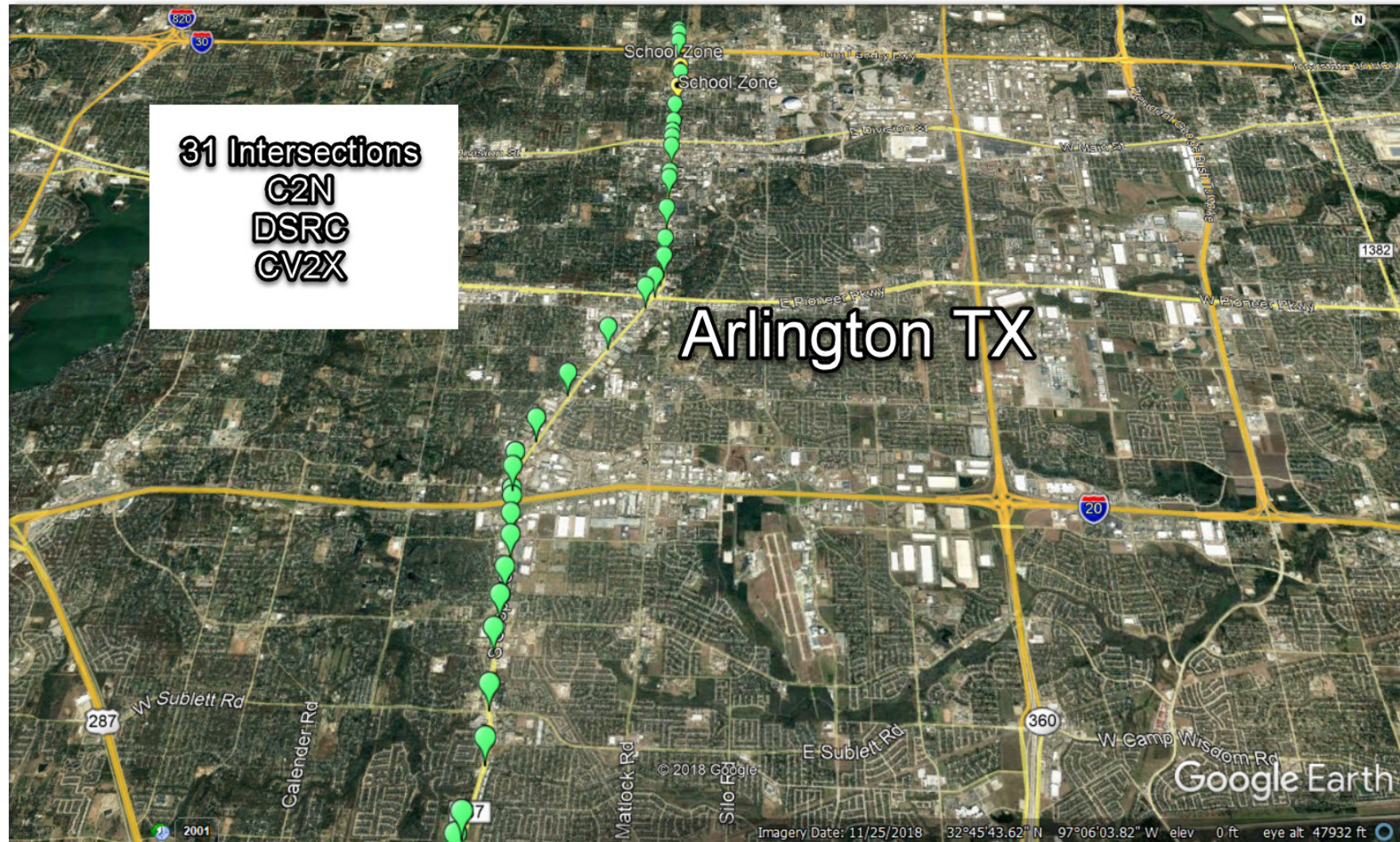
Table 10: Average Marginal Costs per Hour, 2010-2018

Motor Carrier Costs	2010	2011	2012	2013	2014	2015	2016	2017	2018
<i>Vehicle-based</i>									
Fuel Costs	\$19.41	\$23.58	\$25.63	\$25.78	\$23.29	\$16.13	\$13.45	\$14.50	\$17.07
Truck/Trailer Lease or Purchase Payments	\$7.37	\$7.55	\$6.94	\$6.52	\$8.59	\$9.20	\$10.20	\$10.39	\$10.45
Repair & Maintenance	\$4.97	\$6.07	\$5.52	\$5.92	\$6.31	\$6.23	\$6.65	\$6.58	\$6.72
Truck Insurance Premiums	\$2.35	\$2.67	\$2.51	\$2.57	\$2.89	\$2.98	\$3.00	\$2.95	\$3.32
Permits and Licenses	\$1.60	\$1.53	\$0.88	\$1.04	\$0.76	\$0.78	\$0.88	\$0.92	\$0.95
Tires	\$1.42	\$1.67	\$1.76	\$1.65	\$1.76	\$1.72	\$1.41	\$1.50	\$1.50
Tolls	\$0.49	\$0.69	\$0.74	\$0.77	\$0.90	\$0.79	\$0.97	\$1.05	\$1.17
<i>Driver-based</i>									
Driver Wages	\$17.83	\$18.39	\$16.67	\$17.60	\$18.46	\$19.95	\$20.91	\$21.97	\$23.50
Driver Benefits	\$6.47	\$6.05	\$4.64	\$5.16	\$5.15	\$5.22	\$6.18	\$6.78	\$7.18
TOTAL	\$61.90	\$68.21	\$65.29	\$67.00	\$68.09	\$62.98	\$63.66	\$66.65	\$71.78

An Analysis of the Operational Costs of Trucking:
2019 Update

Source: American Transportation Research Institute (ATRI), "An Analysis of the Operational Costs of Trucking: 2019 Update

Development #2: Arlington Connected Vehicle Corridor



Development #3: Georgia Regional Connected Vehicle Program (and other such programs)



- Collaboration between GDOT & Atlanta MPO
- 1000+ intersections
- Dual mode
- Freight priority application
- Recent Request for Proposal



Optimized Freight Movement Project Elements

1. Technology to optimize the flow of trucks from hubs to expressways
2. Benefit-cost analysis to identify where tech will do the most good:
 - Truck travel time savings
 - Improved traffic flow
 - Public health
 - Any adverse impacts—e.g., cross-traffic delay
 - Compare with alternative solutions—e.g., signal retiming
3. Coordination with local agencies/freight industry
4. Monitor performance and adapt

Action Requested

Regional Transportation Council (RTC) approval of:

1. \$5 million for Optimized Freight Movement project (\$200K RTC Local, remainder federal; RTC Transportation Development Credits); and
2. Staff to administratively amend the TIP/STIP and other planning documents as required to effectuate the project.

Contact

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