EcoPRT – Reinventing the Roadway

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The value of EcoPRT to the state of North Carolina:

1. Important new transportation tech
2. Manufacturing and jobs in NC
3. Valuable for growing cities
4. Low-cost solution to traffic problems

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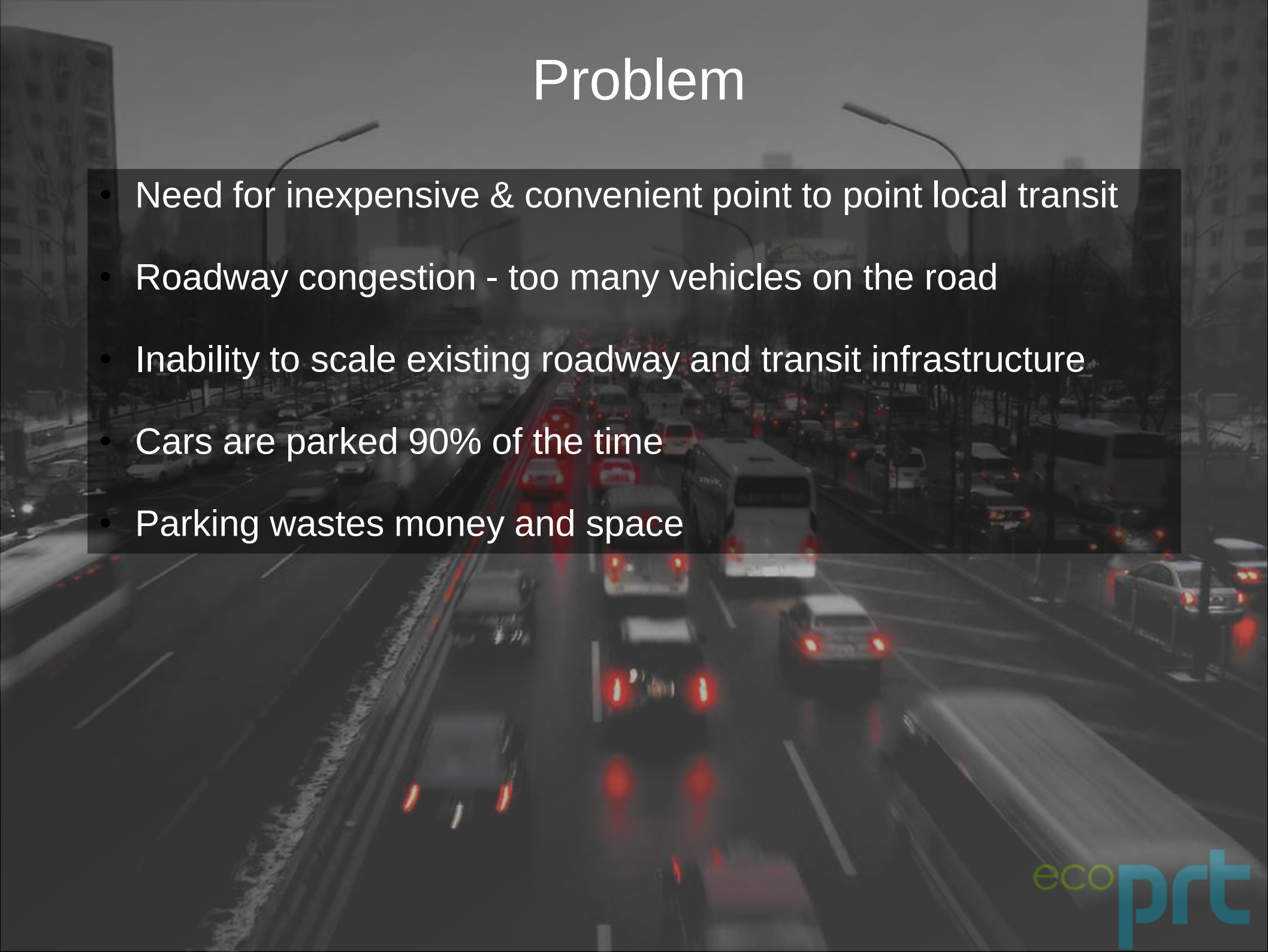
Vision

EcoPRT reinvents the urban roadway, defining a new standard for an efficient, low-cost transportation solution.

Problem



- Need for inexpensive & convenient point to point local transit
- Roadway congestion - too many vehicles on the road
- Inability to scale existing roadway and transit infrastructure
- Cars are parked 90% of the time
- Parking wastes money and space

EcoPRT consists of 3 parts:

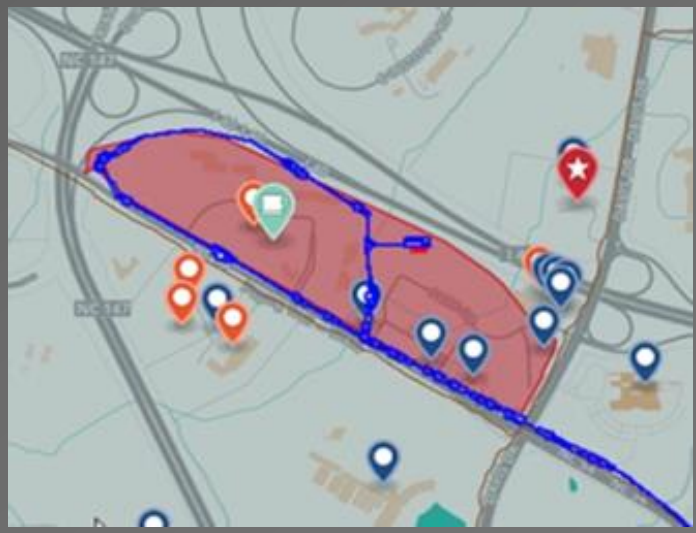
- Vehicles
- Guideway
- Stations

Phase I : Miniature Driverless Shuttles

Courtesy: Nikhil Patil

- Driverless & fully automated
- Advanced collision avoidance
- Air conditioning
- Wireless recharging
- 25 - 40 mile range

- On demand pickup
- Call from smart phone
- Ideal for:
  - Private campuses
  - Shopping centers
  - Bicycle Paths



- Turn-Key Solution
- One Day Setup
- Fully programmable route
- 24/7 self-monitoring

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Phase II : Elevated Guideways

- Incremental adaptability – extreme flexibility
- Low-cost elevated guideway
- Use existing roads as possible, build up as needed
- Network of large campuses
- Incrementally extending reach to create city-level network

- Different flavors of vehicles
- Cargo in addition to passengers
- Platooning vehicles for greater throughput

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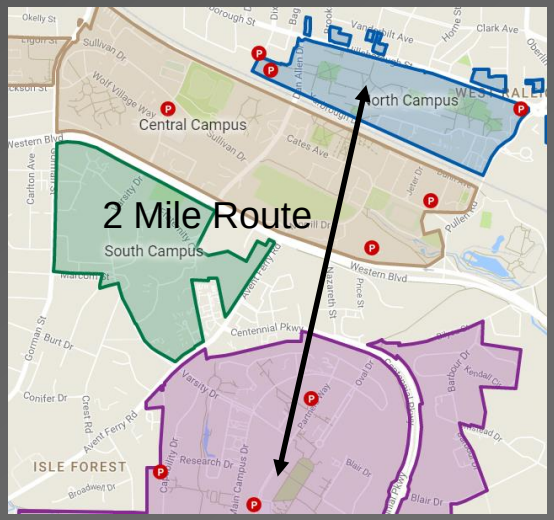
University Deployment: EcoPRT vs Bus

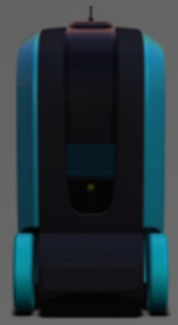
	ecoPRT	Bus
Operating Costs: *	$1.15M	$3M ***
Capital Costs: **	$0.5M	~none~
Travel Time:	5 minutes	25 minutes
Operating Hours	24/7	Limited after hours
Wait Time	~none~	Up to 30 Minutes



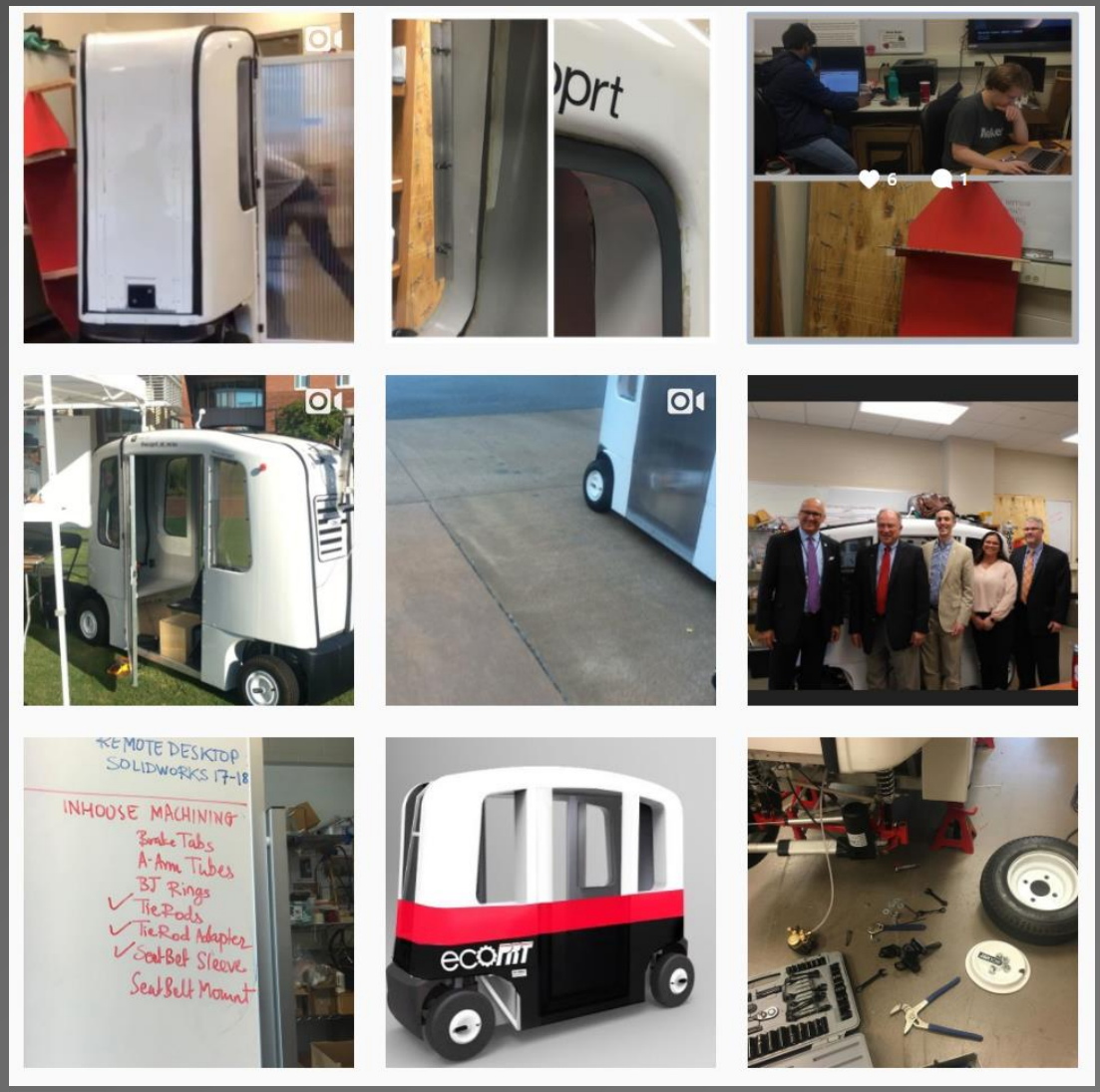
* *Operating Costs are Annual*
** *Capital Costs are Annual Costs on an Amortized Basis*
*** *Assumes contracted bus service, 10 bus peak operation, 8k passengers/day*
*** *ecoPRT assumes total daily miles of 8,000*

ecoPRT vs. Existing Driverless Car/Bus

- Small, nimble and flexible (can go on existing paths, not just roads)
- Smaller footprint vehicles can enable them to run indoors as well
- Extensible and scalable infrastructure – can make use of low-cost elevated guideways
- Lower cost

	ecoPRT	Toyota Camry	Bus	Light Rail
				
weight	1,000 lbs	3,600 lbs	32,000 lbs	100,000 lbs
footprint	3 x 5.5 ft	6 x 5 ft	8.5 x 9.5 ft	9 x 11 ft

EcoPRT @ NC State University



$500K in funding
Technology Spinout

Student Participation
Multiple Disciplines

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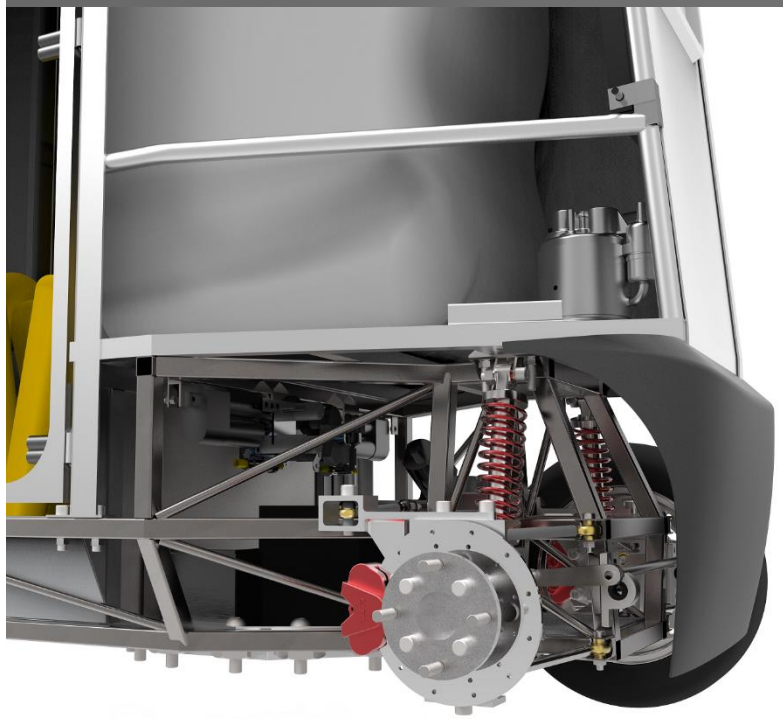
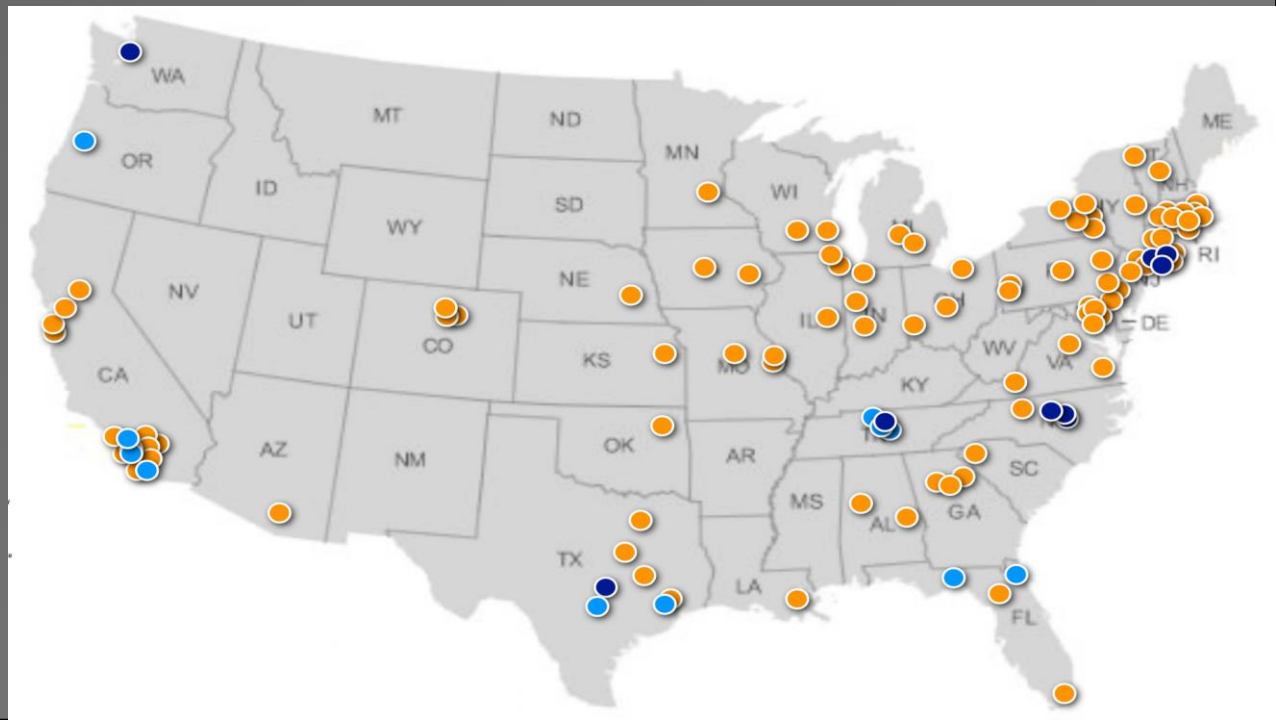
Next Gen Vehicle



Huge Pent-Up Demand

- Large college campuses
- large corporate campuses
- Airports
- Large shopping centers
- Dense urban cores
- Tourist areas
- Theme parks
- And so on...



Roadmap and Milestones

Proof of Concept Vehicle → NCSU Pilot → NCSU Production → Multiple Deployments

Proof of Concept Built	Multiple Vehicle Network	Commercial Vehicle	Aggressive Deployment
Vehicle Testing	General Passenger Testing	System Operational	Expanding existing sites
NC DoT Grant $300k	Feasibility Study	Partner Manufacturer	
RTP Grant $165k			
Working Vehicle	**Testing at NCSU**	**Commercial Operation**	**Expand**
Complete	Year 1	Year 2	Year 3

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