# Safety-critical Wireless Mobile Systems

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# Description

Transportation applications benefit from wireless communication

However, wireless is highly dynamic and challenging to predict

**Goals of This Project:**

- Predict wireless channel characteristics in highly dynamic environments

- Provide worst-case latency bounds on wireless channel performance

- Obtain performance improvements of physical systems with safety guarantees
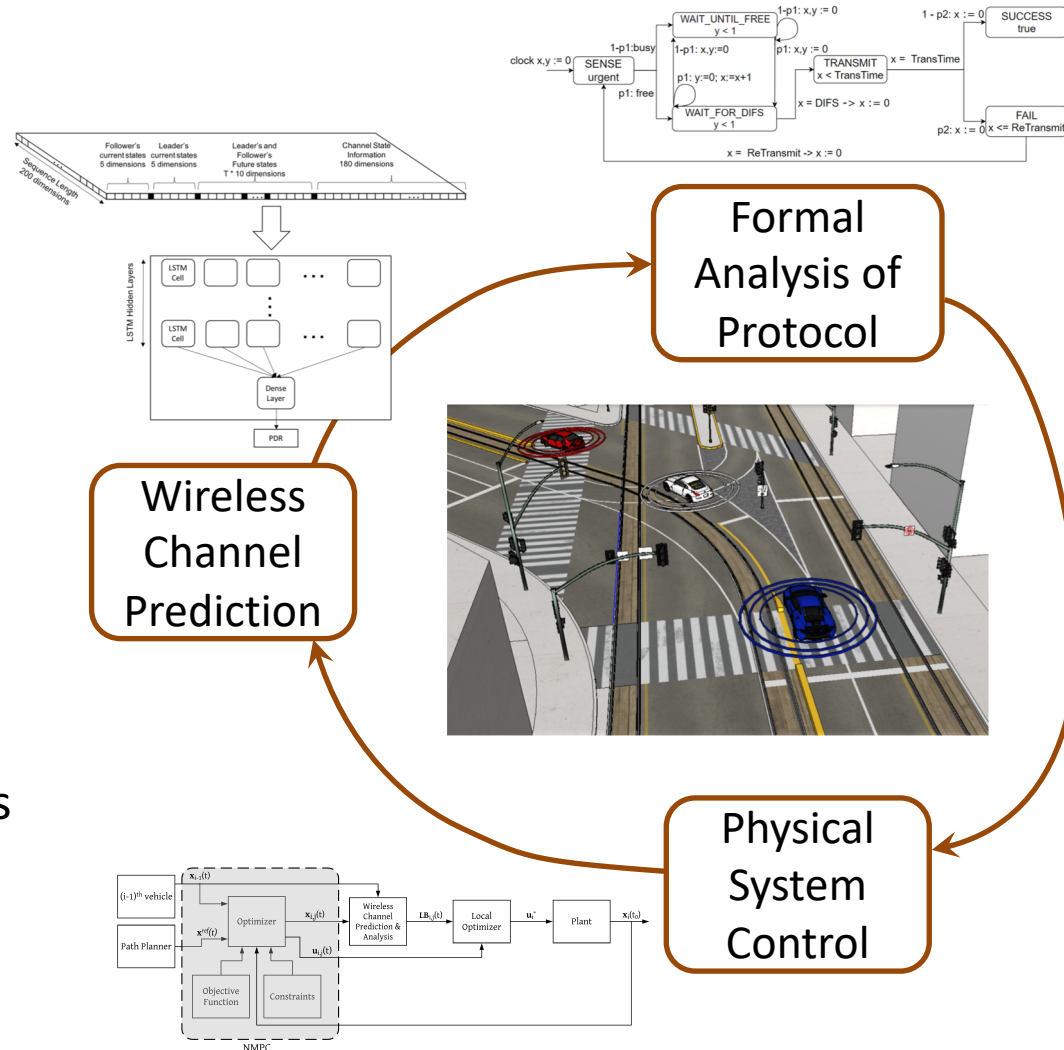
# Findings

- Designed and conducted studies of wireless performance under dynamic conditions
- Trained and tested LSTM learner to predict wireless performance
- Proposed model-predictive control algorithms that guarantee safety and <u>improve physical performance by finding "low latency trajectories"</u>



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