TNCs & Congestion

Agenda Item 12

SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

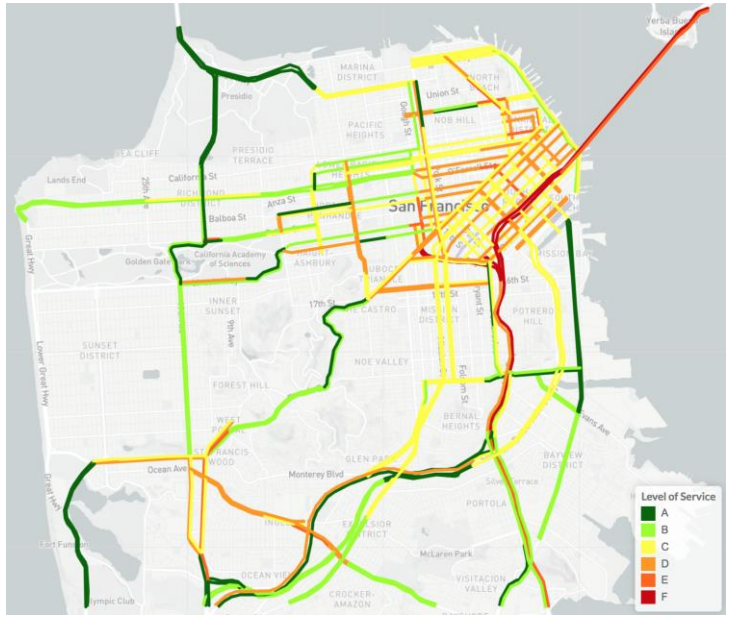
November 28, 2018

TNCs & Congestion

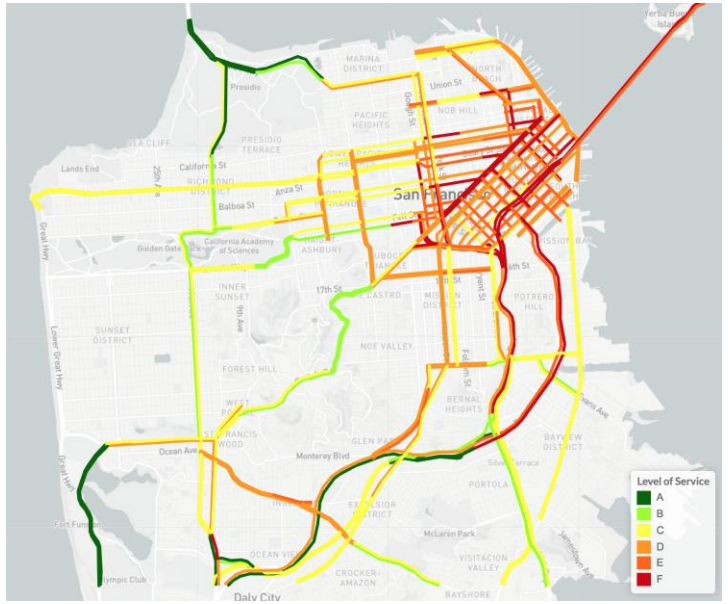
- Do TNCs affect roadway congestion in San Francisco?

- Report Contents
  - **Measures** of congestion
  - **Factors** that affect congestion
  - **Data** for quantifying changes in congestion
  - **Methods** for linking changes in congestion to factors
  - **Contributions of factors** to changes in SF congestion

2009 PM PEAK LEVEL-OF-SERVICE



2017 PM PEAK LEVEL-OF-SERVICE



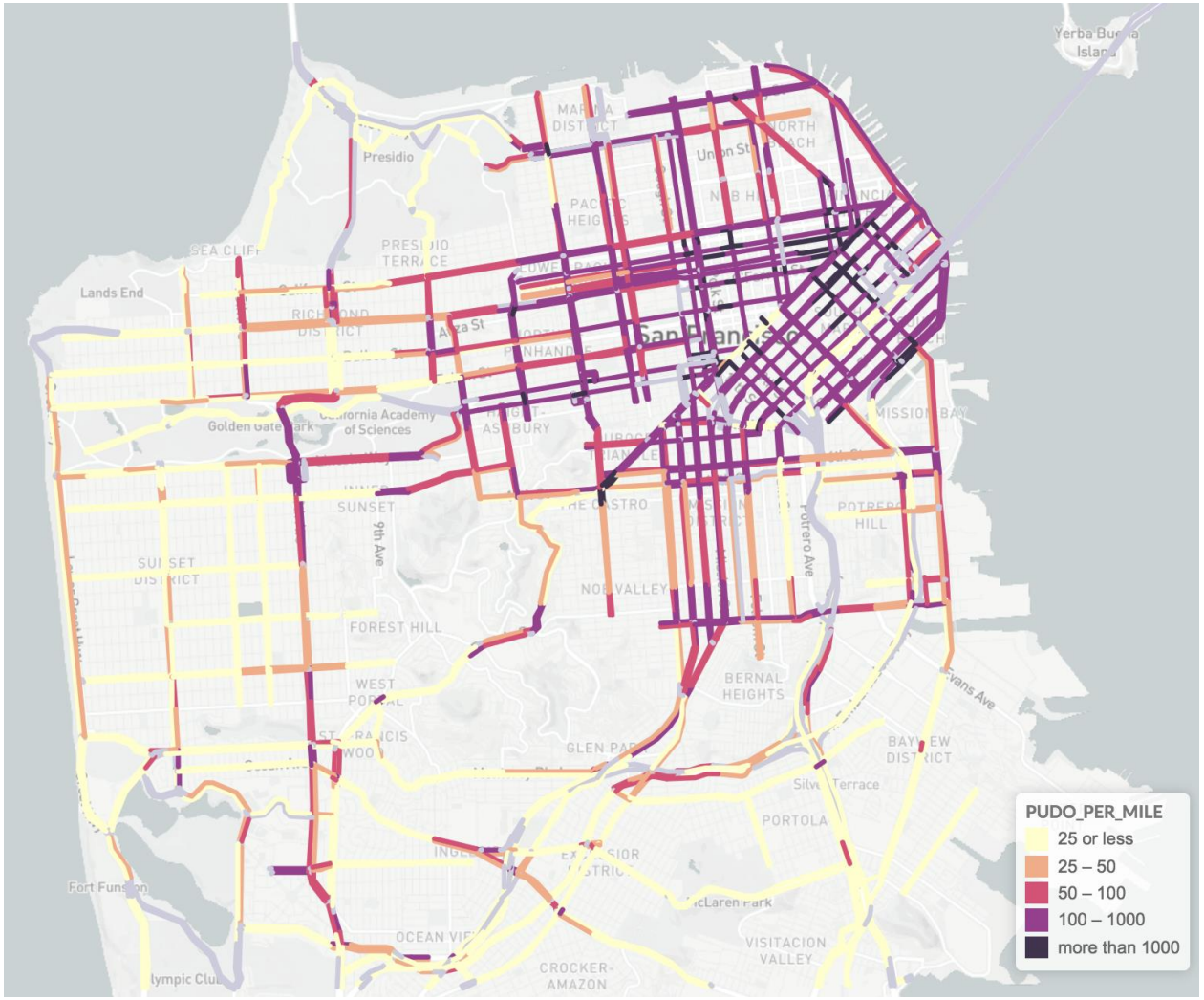
Factors that Affect Congestion

- How could TNCs decrease congestion?
  - Increased **vehicle occupancy**
  - Mode **shift to transit** due to easier access (first/last mile)
  - Mode **shift away from auto** due to reduced auto ownership
- How could TNCs increase congestion?
  - Add “dead head” or **out-of-service vehicle miles**
  - Mode **shift away from transit and non-motorized** modes
  - **Disrupt traffic flow** due to pickups and drop-offs
- Background traffic and roadway performance
  - **Network** changes (increases or decreases in roadway capacity)
  - **Population** changes
  - **Employment** changes
- Other

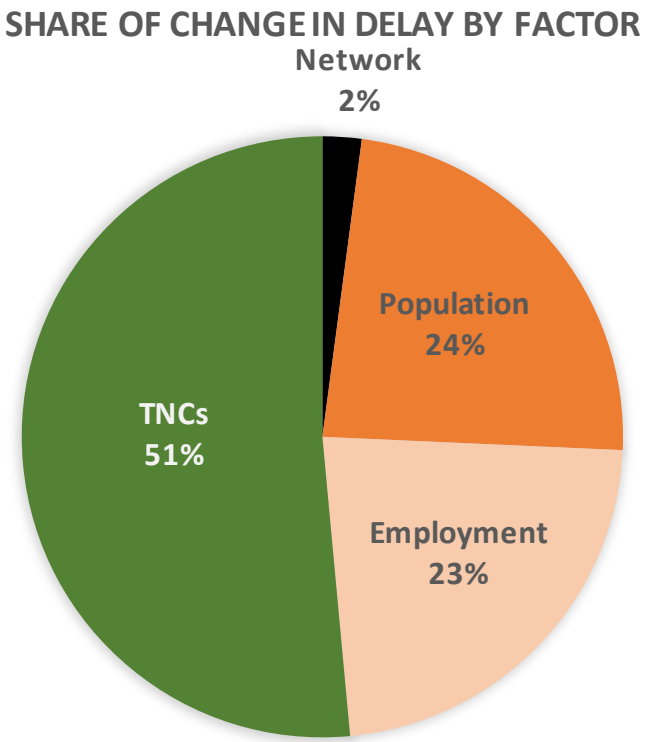
Data

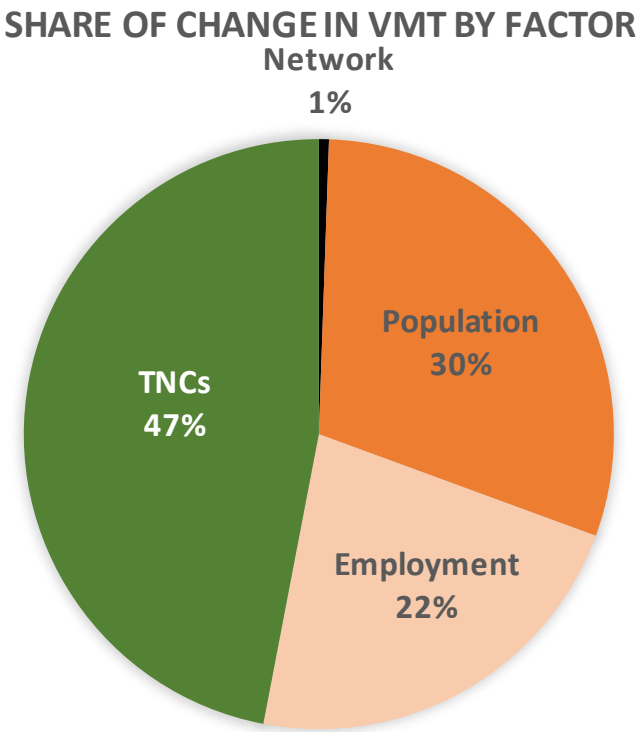
- Congestion (INRIX)
  - Nov / Dec 2010 & 2016
  - 1400 “TMCs” (segments) in SF
  - Speeds, imputed volumes
- TNCs
  - Nov / Dec 2016
  - In-service and out-of-service volumes
  - Pick up and drop off locations
- Background traffic (CHAMP)
  - 2010, 2016 (adjusted from 2015)
  - All streets in SF
  - Volumes, imputed speeds

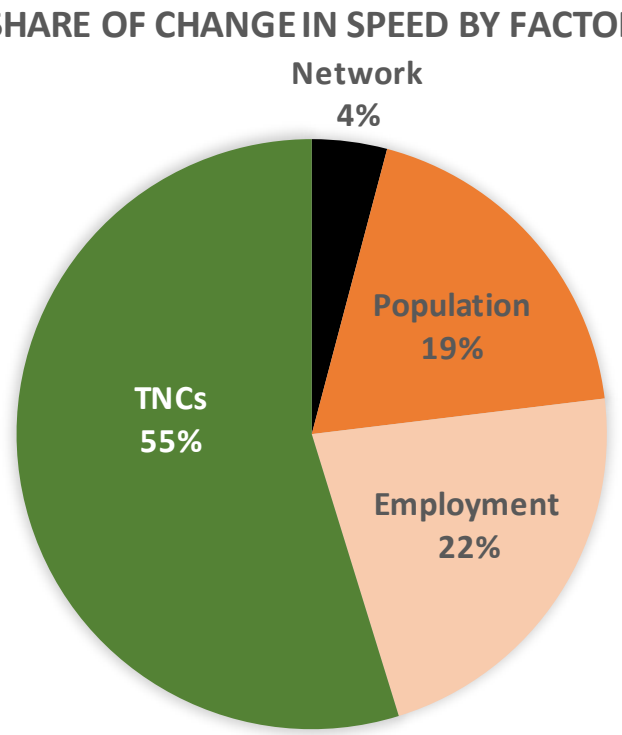
TNCs Pickup/Dropoff per Mile



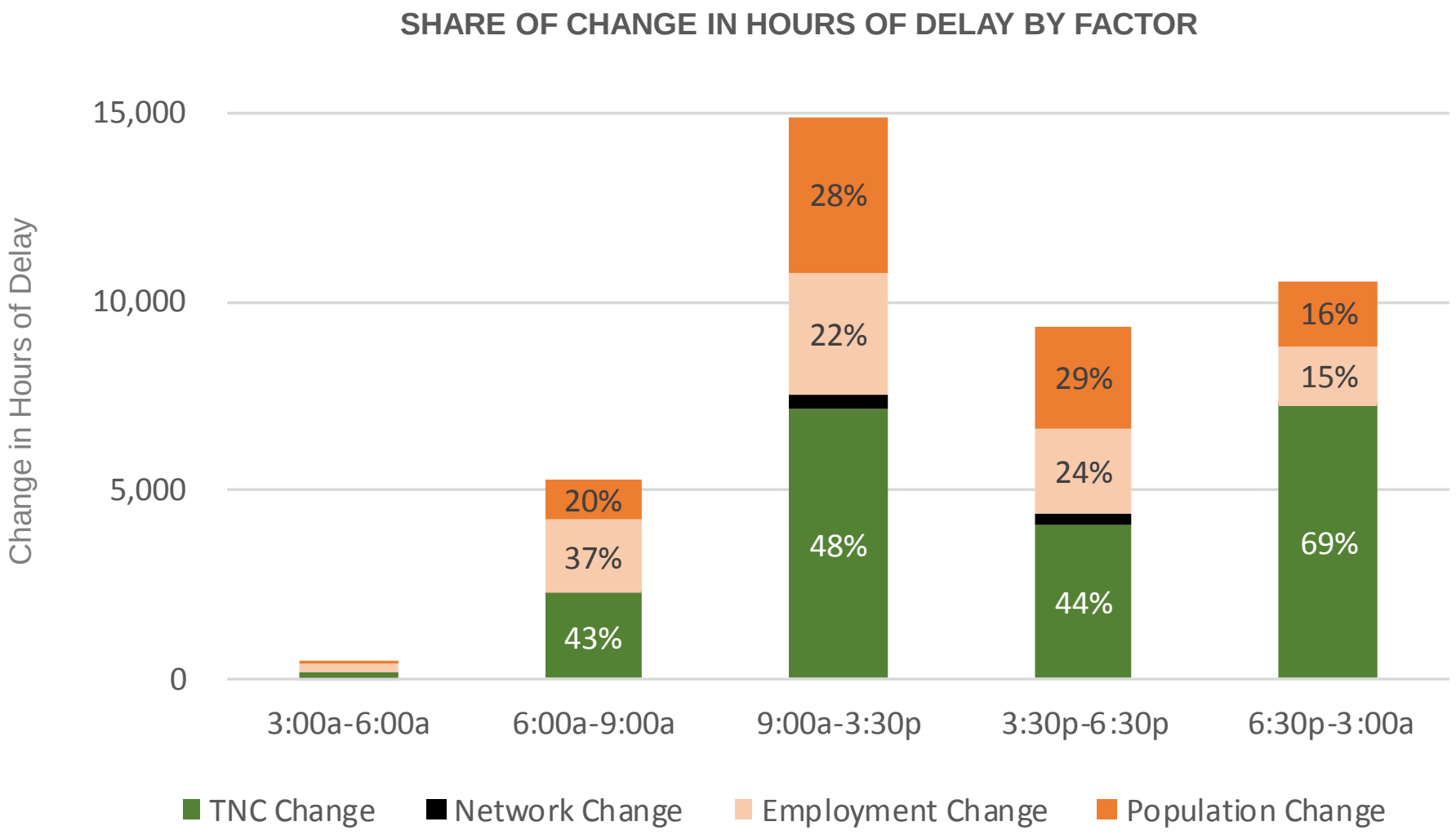
Causes of Changes in Congestion (2010-2016)



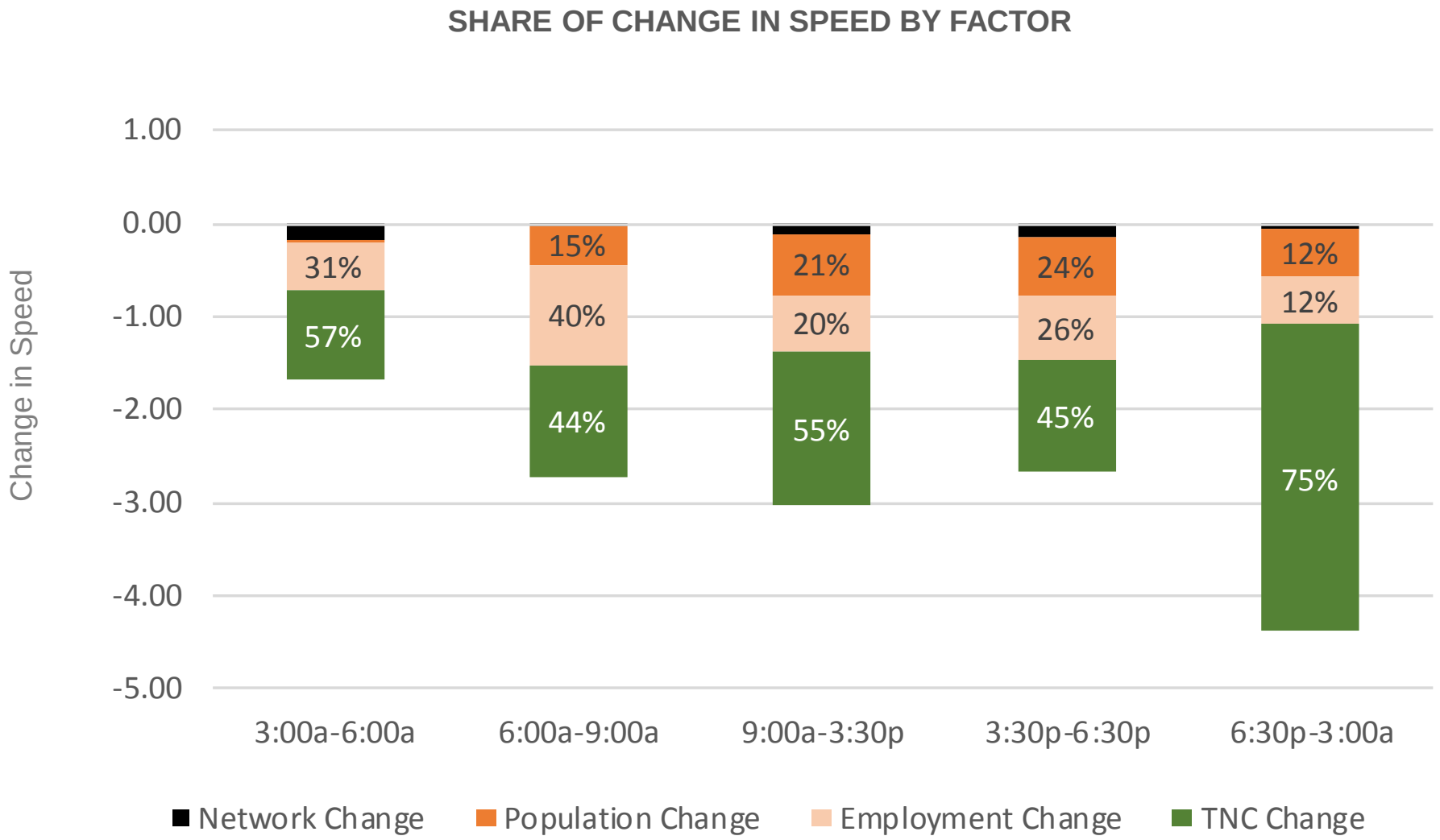




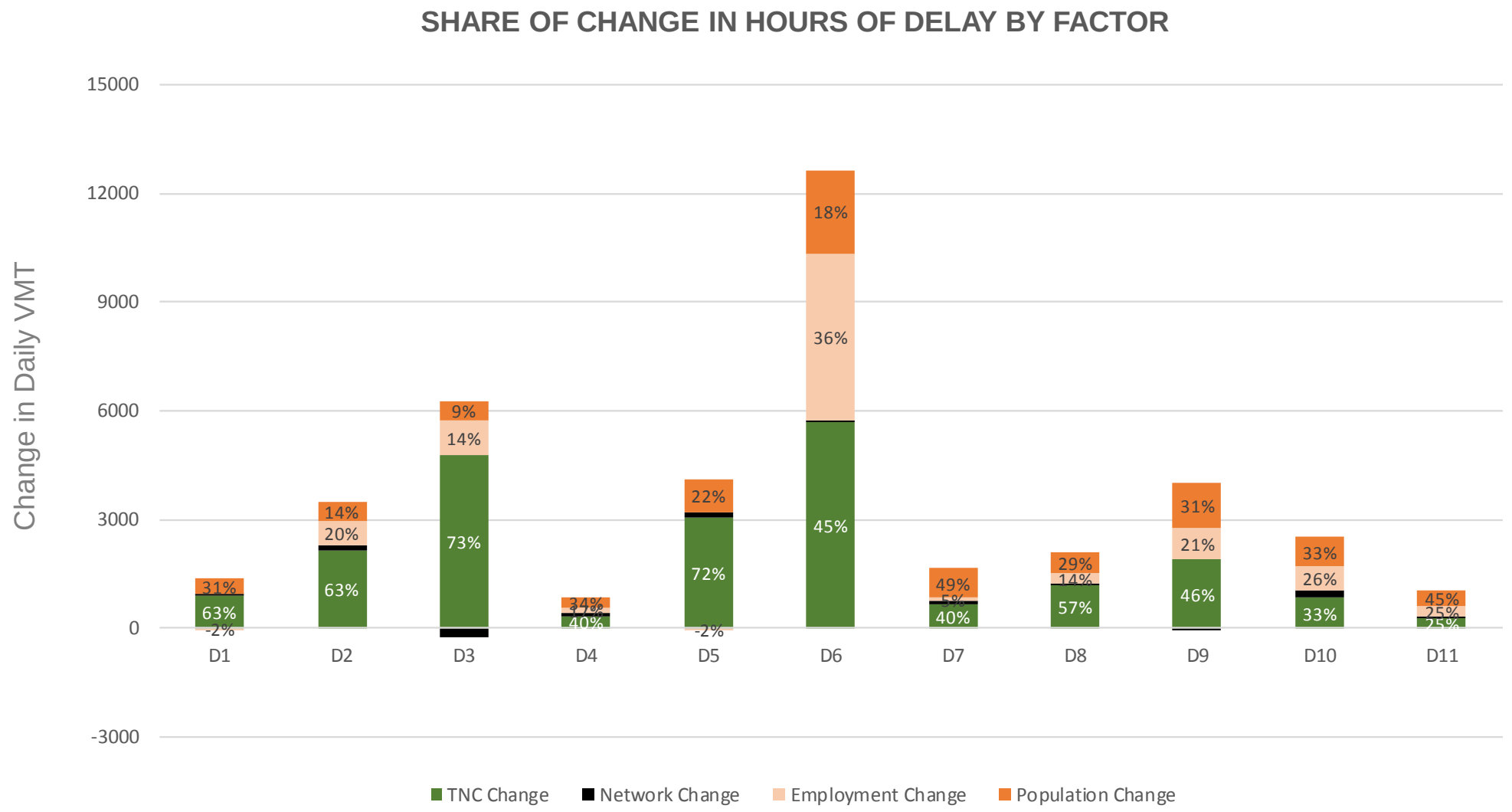
Factors Affecting Hours of Delay by Time Period



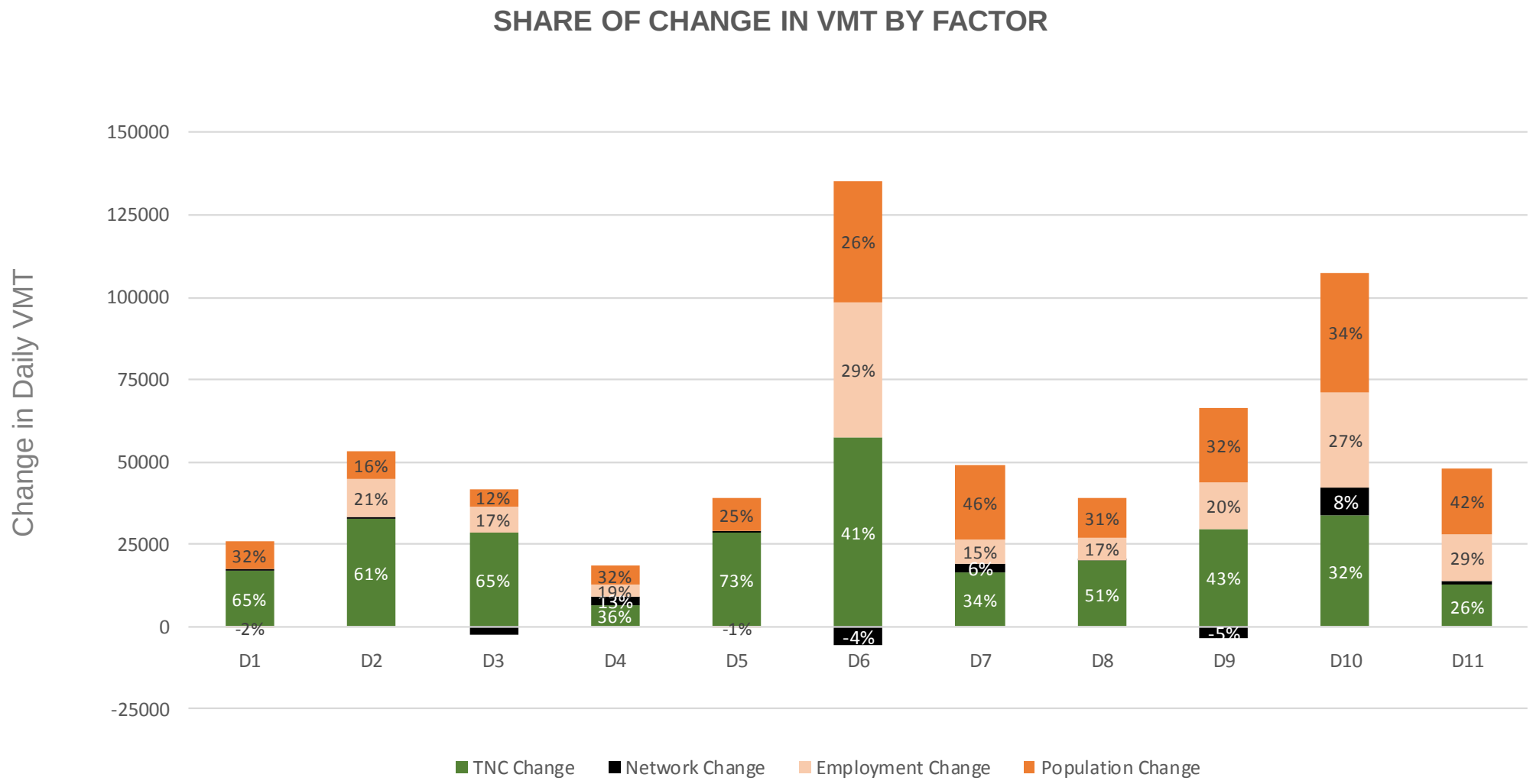
Factors Affecting Speed by Time Period



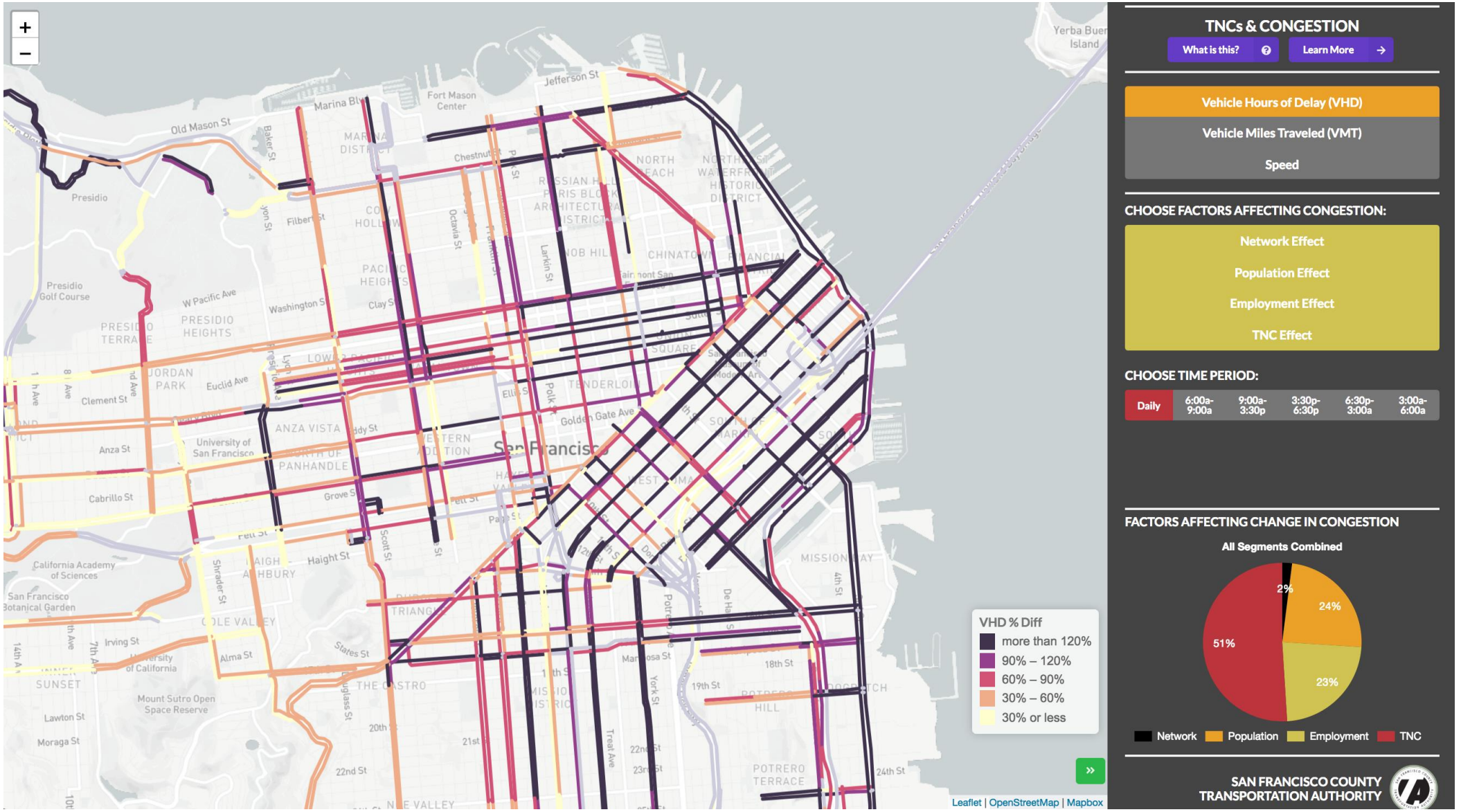
Factors Affecting Hours of Delay by District



Causes of Increased VMT by District



Interactive Data Visualization



Questions?

Project Manager: Joe Castiglione,
joe.castiglione@sfcta.org

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