We're developing a new vision for the Long Beach-East Los Angeles Corridor Mobility Investment Plan

Metro

Long Beach – East Los Angeles Corridor
Trip Characteristics

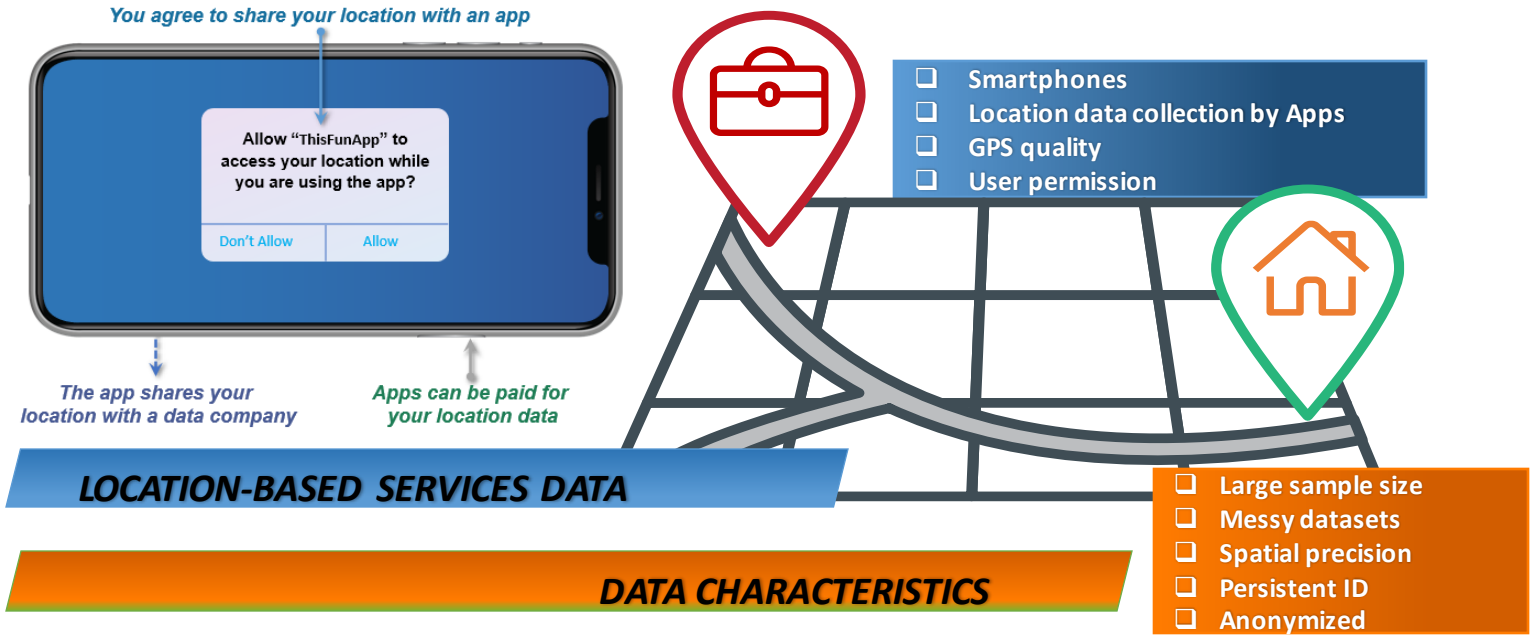
Long Beach – East Los Angeles Corridor Trip Characteristics\

Keir Opie
Principal
Cambridge Systematics

Metro

Introduction to LOCUS Data

- What is LOCUS?
  - Trip tables representing total travel in the region prepared by transforming anonymized, raw location-based services data (from smartphone apps) into expanded and validated travel patterns
  - Assesses trip patterns using real data rather than models
  - Customized platform for LA Metro– integration with transit travel estimates using ridership data from Metro and regional transit agencies



Metro

LOCUS Data for Corridor Analysis

- **Spatial Bounds**
  - Trips with at least one end in the corridor study area
  - Both trip ends within Los Angeles County (trips outside of LA County not included)
  - Only trips by Los Angeles County residents
- **Timeframe**
  - 2019 (Q3/Q4)
- **Day of Week**
  - Average weekdays (Monday – Friday)
  - Weekends (Saturday and Sunday) – *used only for some applications*
- **Transit Trips**
  - Generated using transit farecard (TAP) and automated passenger counts (APC) data

Definitions Used in LOCUS Data Analysis

- **Trip Purposes**
  - **Commute to work/school**: Commuting trips between home and work/school
  - **Home-based other**: All trips taken from home, other than commuting trips
  - **Non-Home-based**: Trips between non-home activity locations

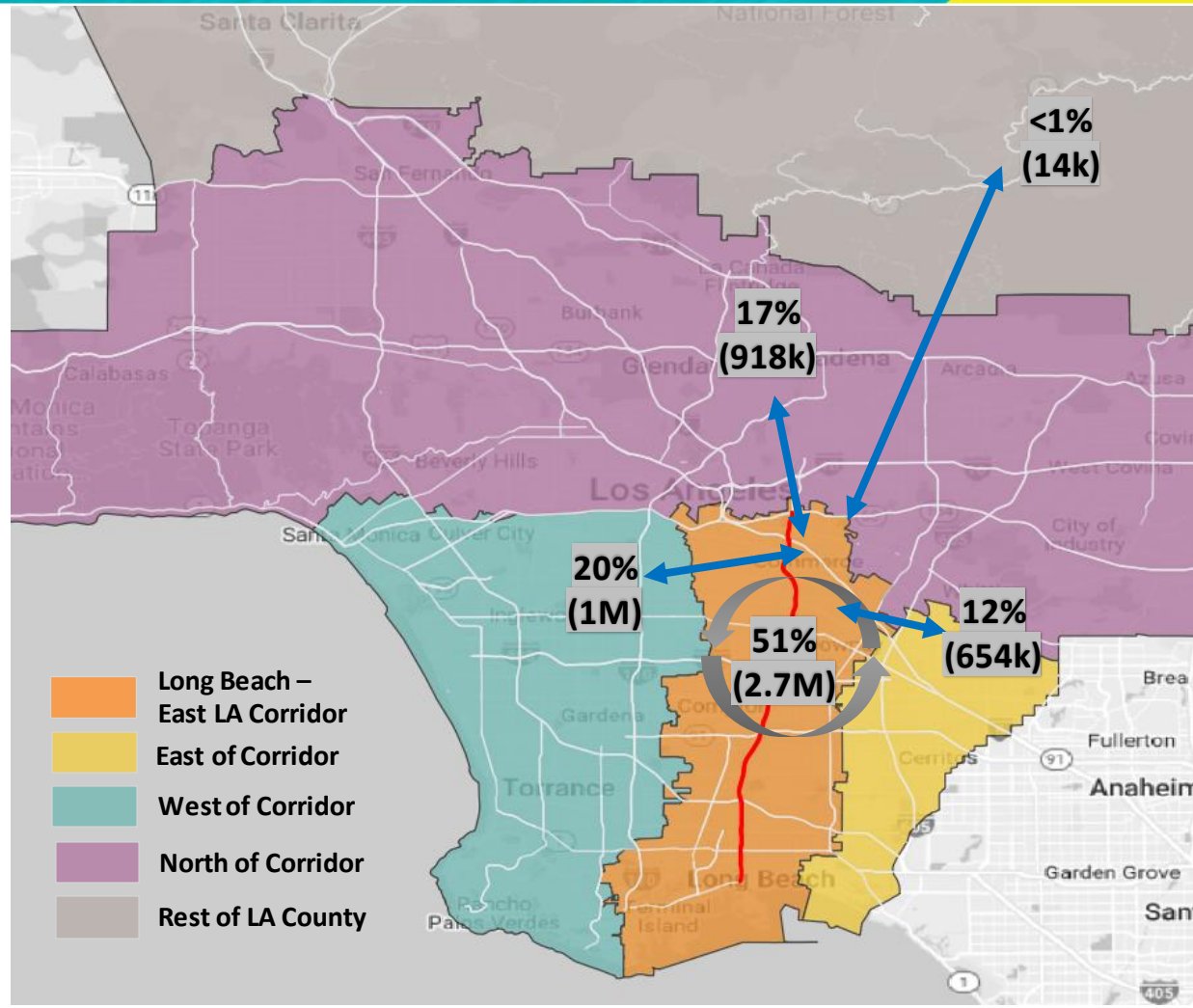
- **Trip Types**
  - **Within Corridor**: Trips that are entirely within the corridor
  - **Inbound**: Trips originating outside the corridor, and ending in the corridor
  - **Outbound**: Trips originating in the corridor, and ending outside of the corridor

Trip Origins and Destinations

Metro

Origin-Destination Patterns – All Corridor Trips (LA County)

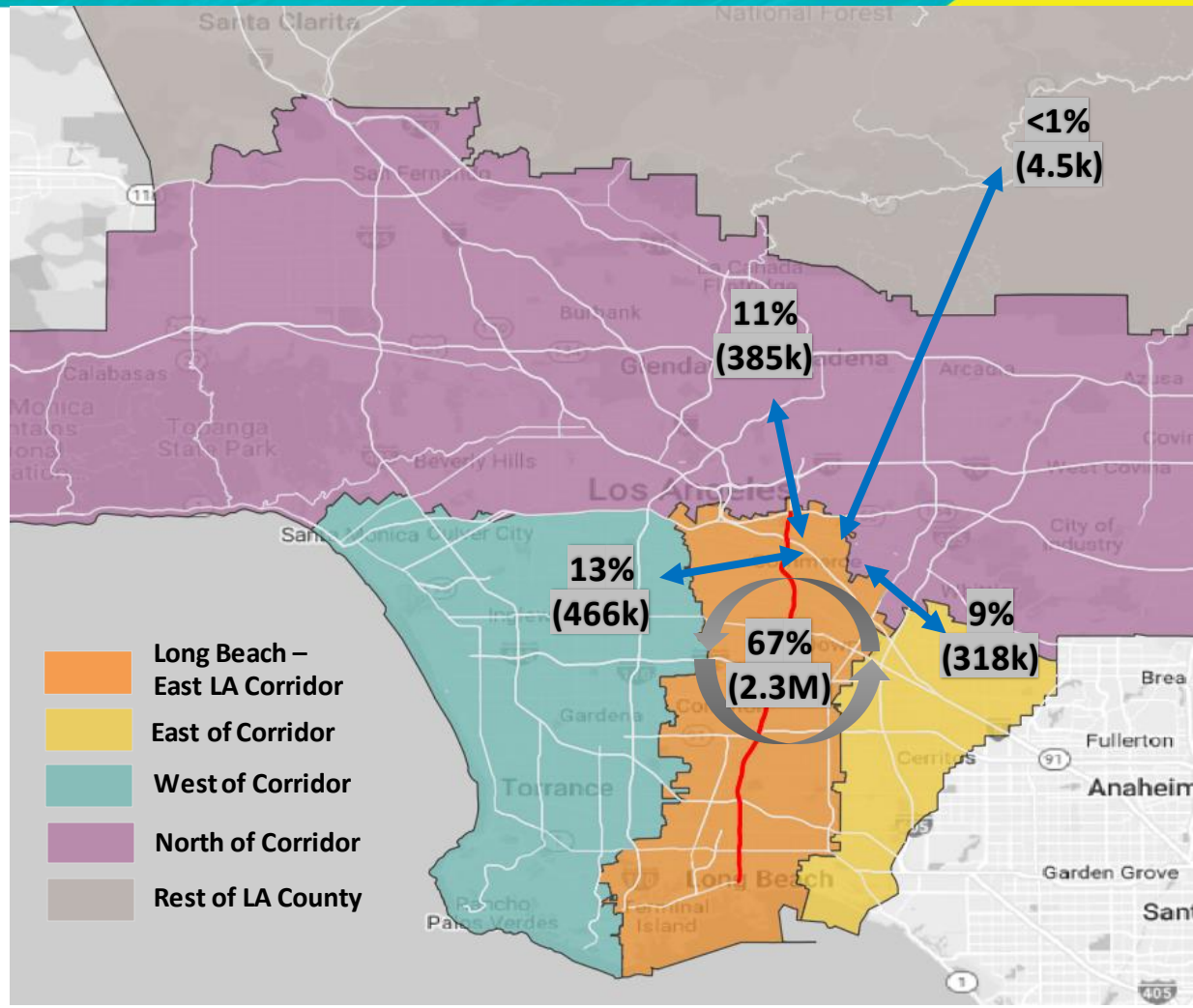
- Includes all trips originating or ending in the corridor – 5.4M trips on an average weekday
- Over half of the trips are enclosed within the corridor
- Trips between the corridor and regions surrounding the corridor vary between 12% to 20%, with the highest contribution from the "West of Corridor" region



Source: LOCUS

Origin-Destination Patterns – Corridor Residents

- Includes only trips made by residents of the corridor – 3.5M on an average weekday
- Two-thirds of the corridor resident trips are within the corridor
- Travel markets to/from the east, north, and west regions contribute between 9% to 13% of the total travel

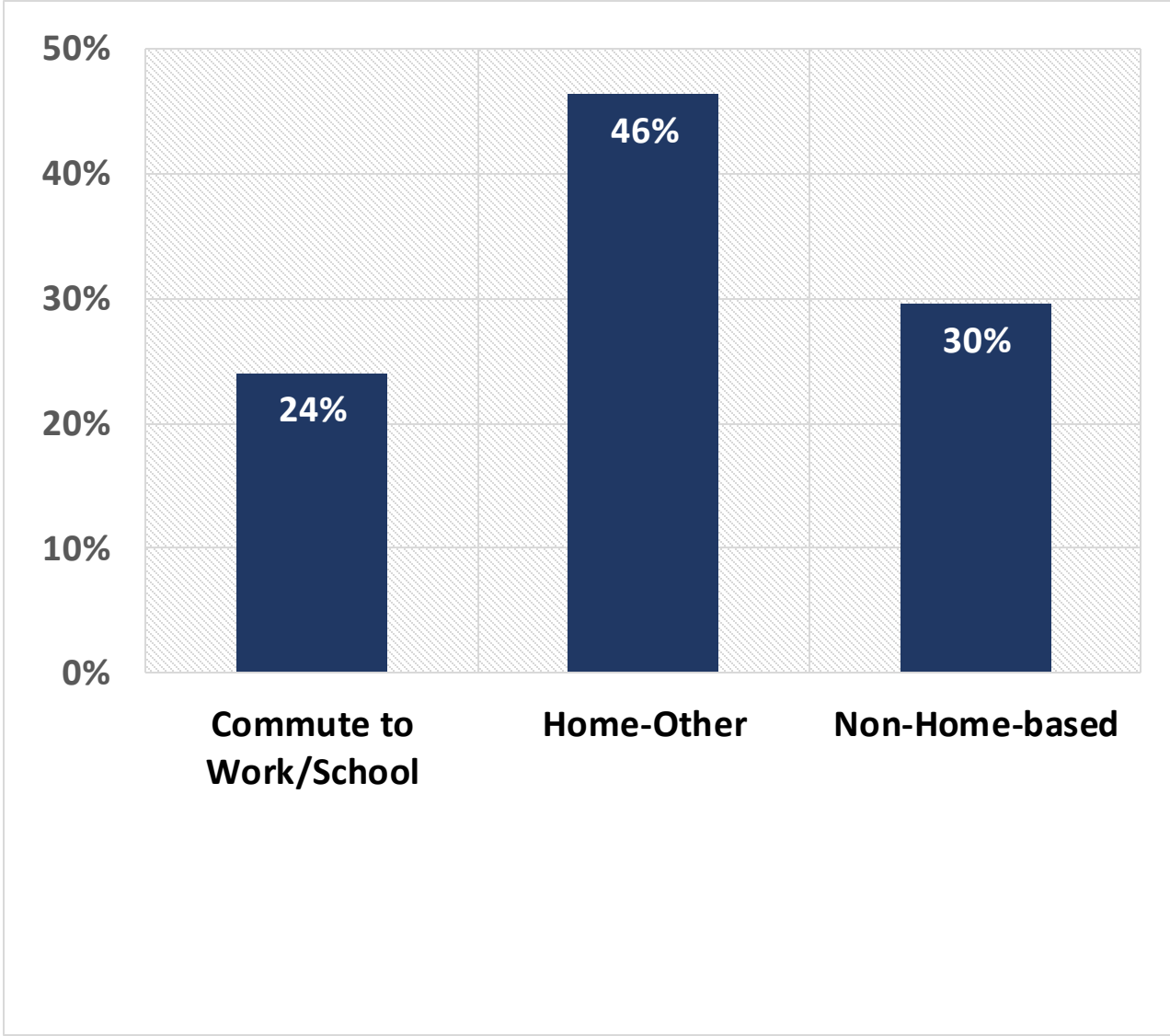


Source: LOCUS

Trip Purpose

Trip Purpose – All Trips

- Includes all trips that begin or end in the corridor study area
- 24% of the corridor trips are commute trips to work and school
- Home-based other trips have the highest share of corridor trips (46%)



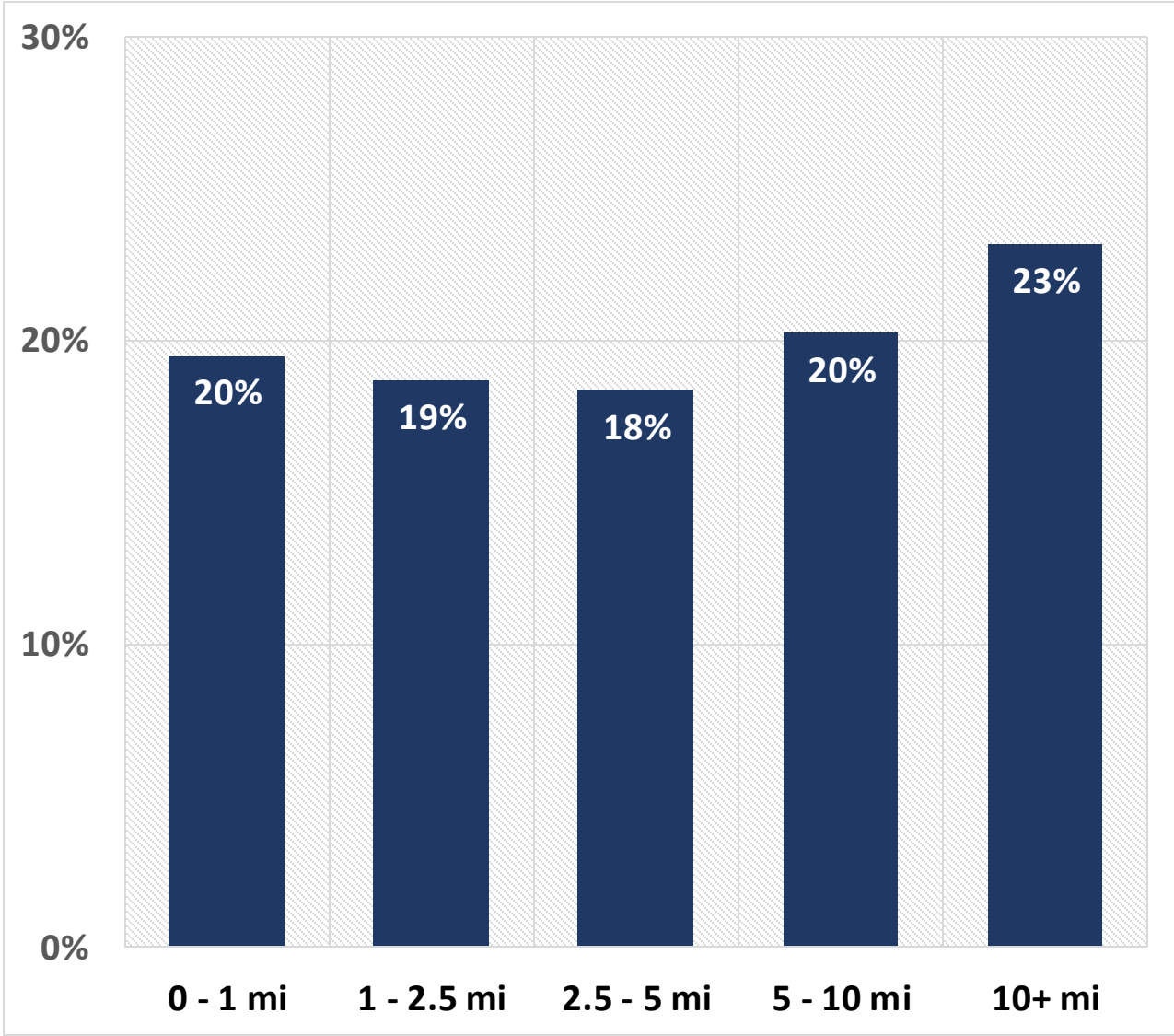
Source: LOCUS

Trip Length

Metro

Trip Length – All Corridor Trips to/from LA County

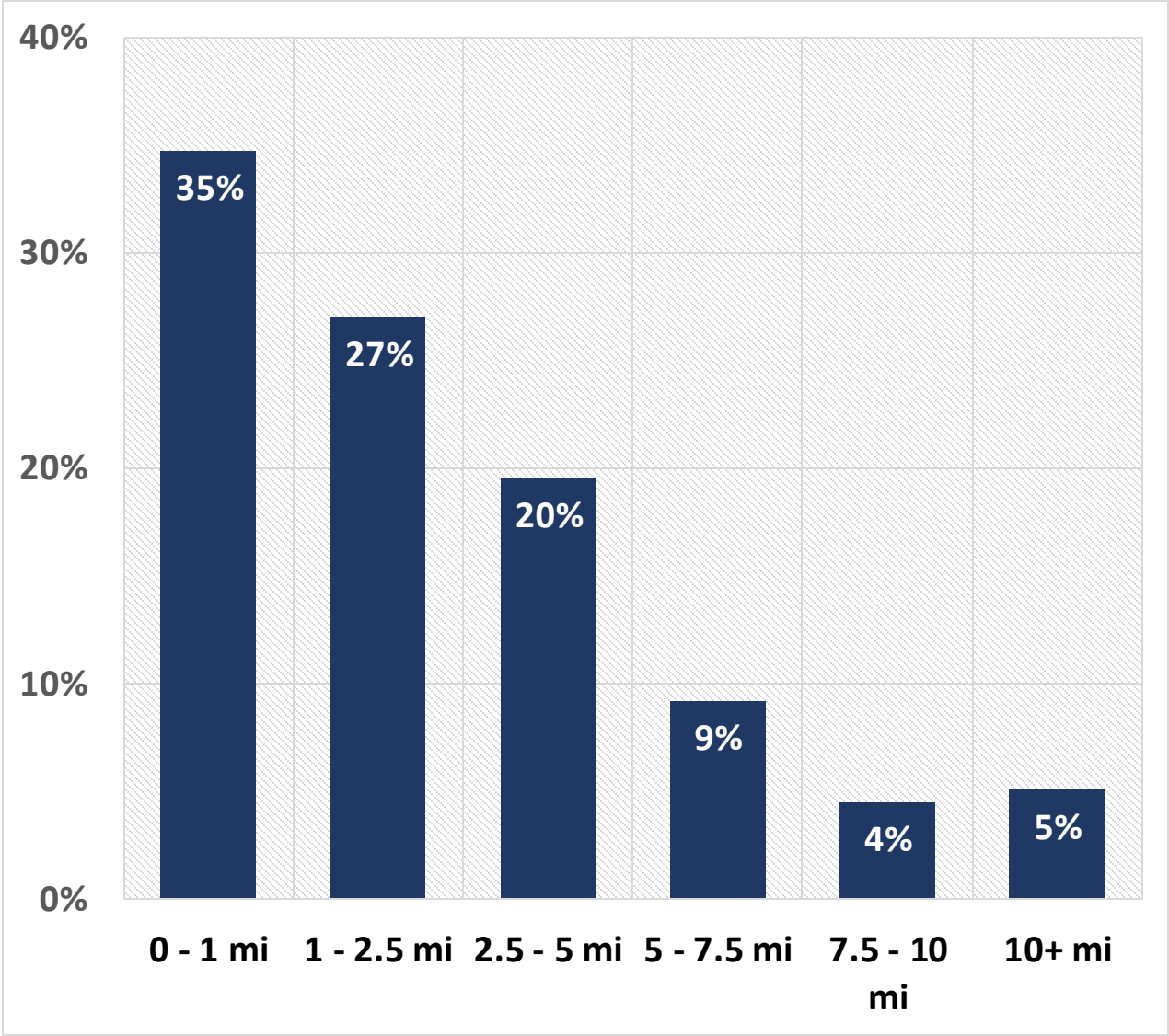
- Short trips (under 2.5 miles) are 39% of all trips. Some of these have the potential to be shifted to active transportation modes.
- 38% of the trips are between 2.5 and 10 mi.
- 23% of the trips are longer than 10 mi.



Source: LOCUS

Trip Length – Trips staying within the Corridor

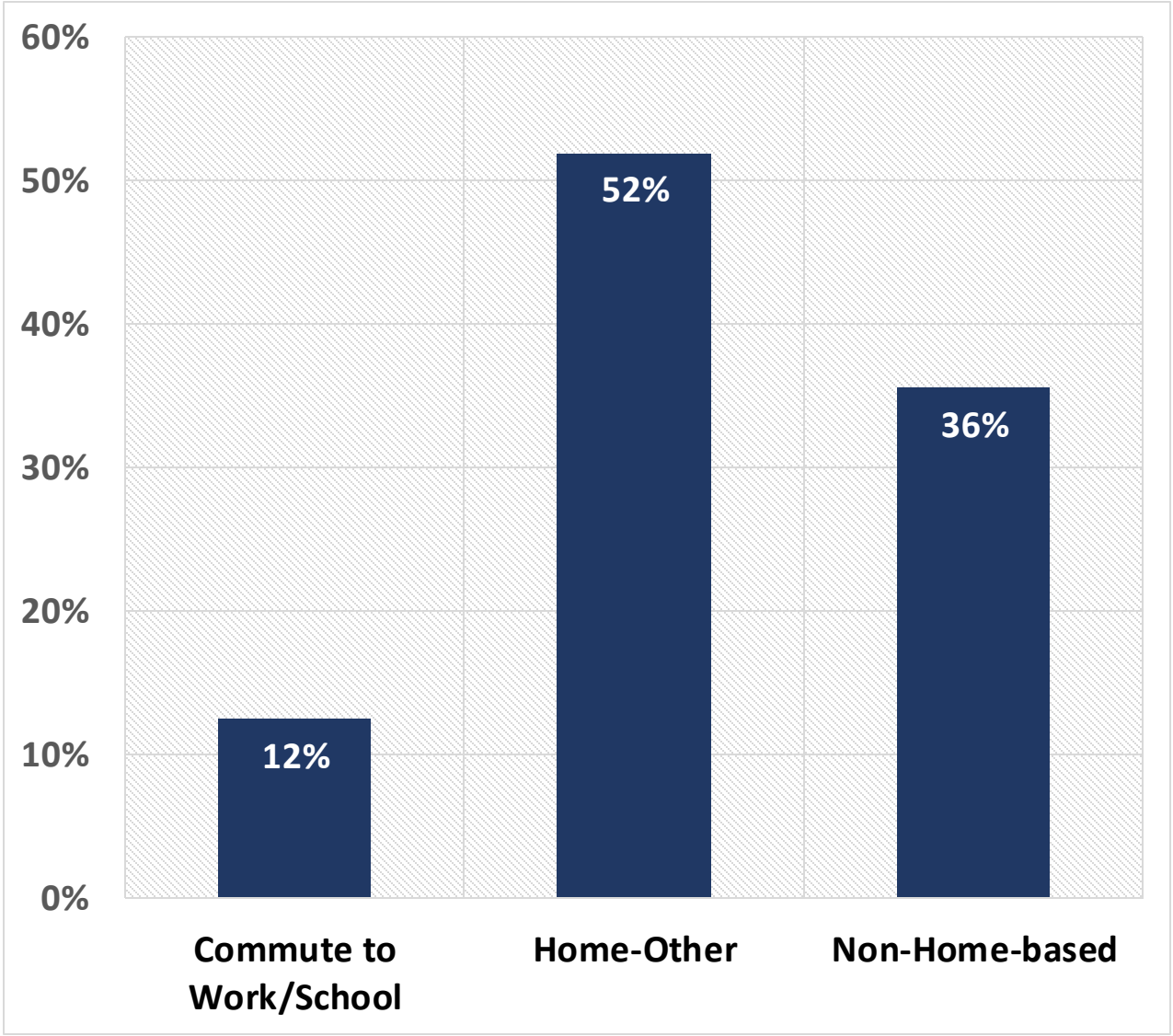
- Trips that stay within the corridor are naturally shorter, with 62% being less than 2.5 miles.



Source: LOCUS

Trip Purposes – Short Trips (0 -2.5 Miles)

- Majority of the short trips (0 – 2.5 miles) within the corridor study are non-commuting trips



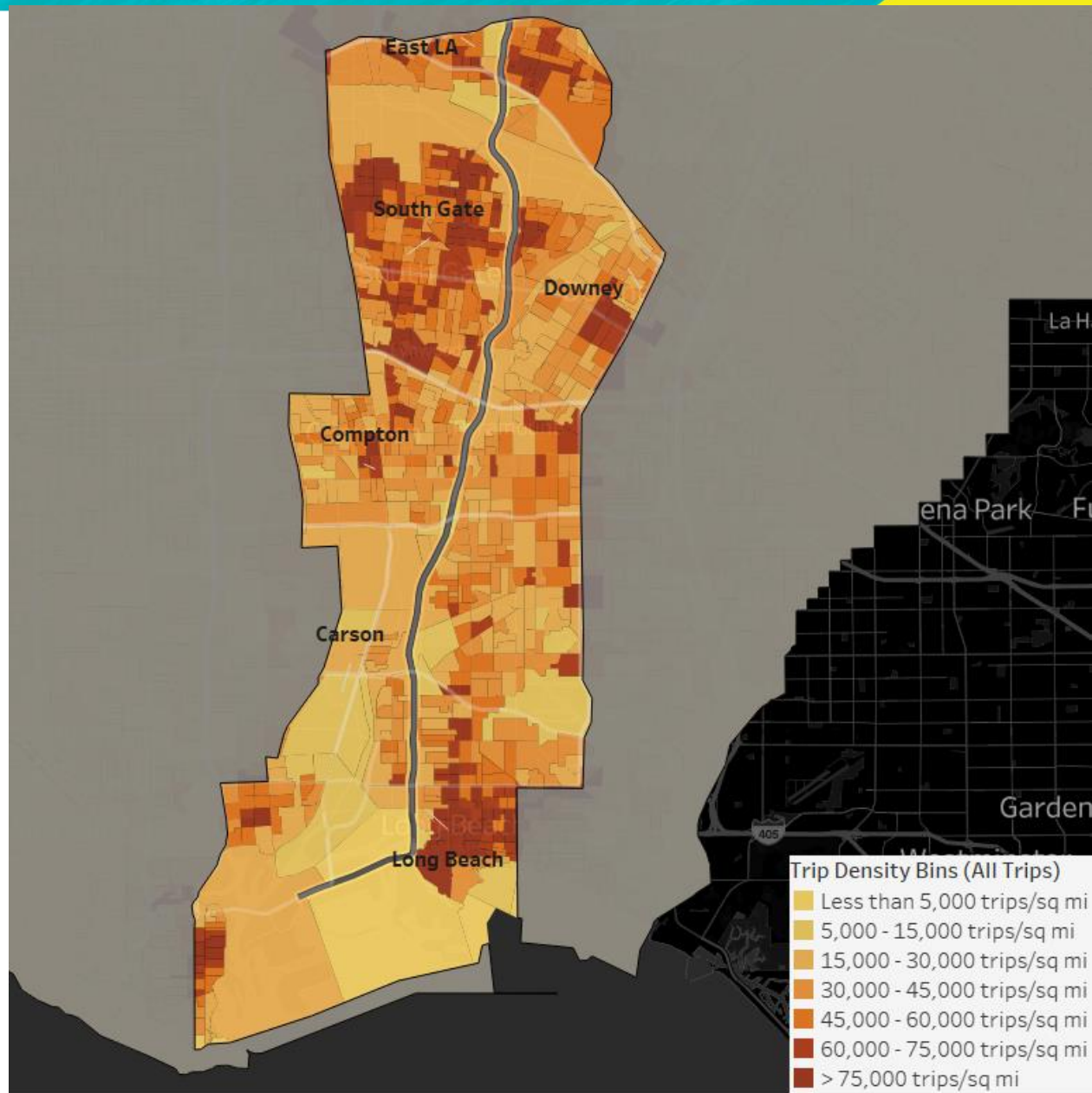
Source: LOCUS

Trip Density

Metro

Trip Density – All Trips

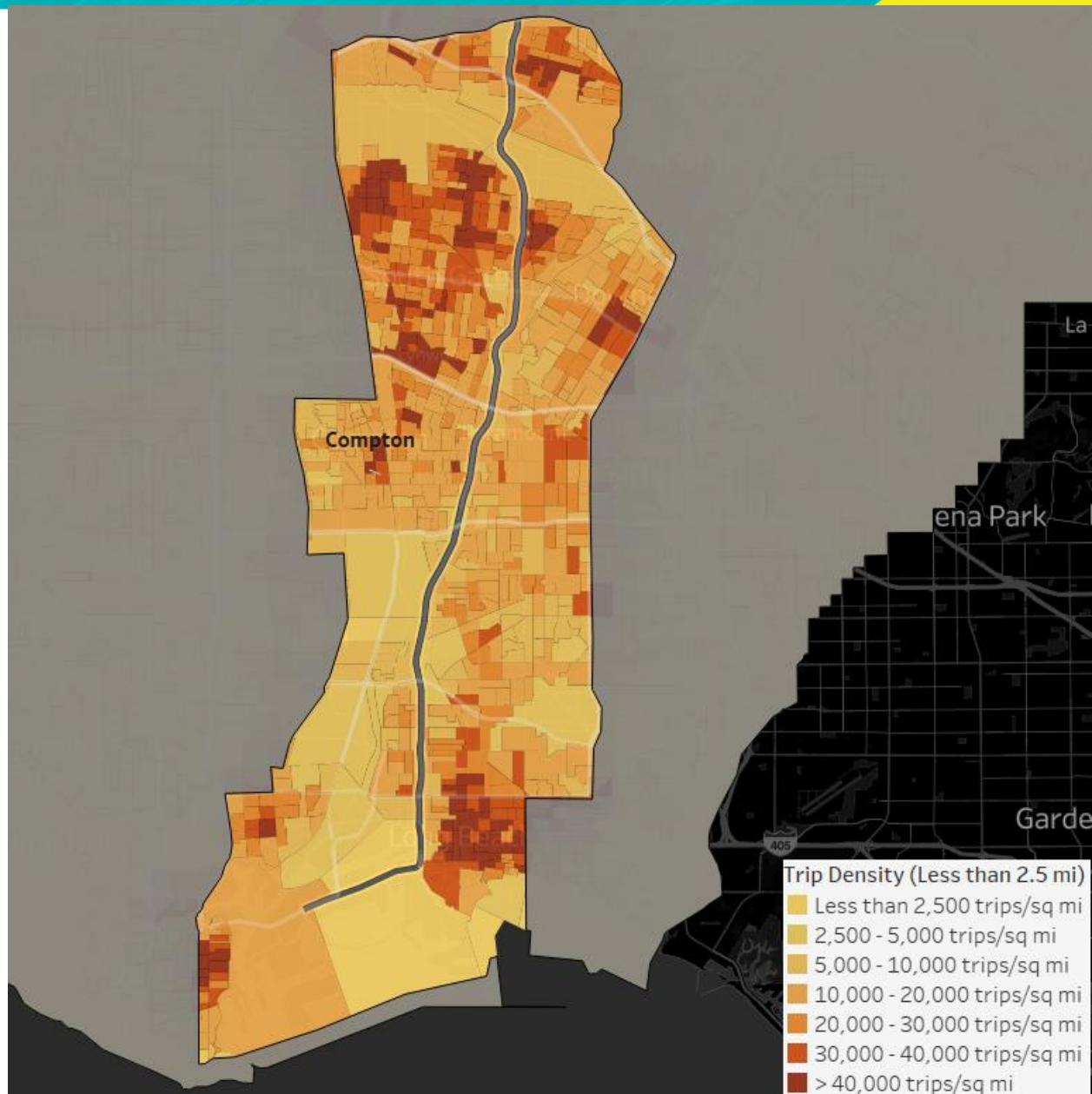
- Includes all trips that begin or end in the corridor study area
- Trip density captures total trip activity (origins + destinations) within the corridor, normalized by the area of the Block Group
- Darker colors show greater trip density



Source: LOCUS

Trip Density – Trips Under 2.5 Miles

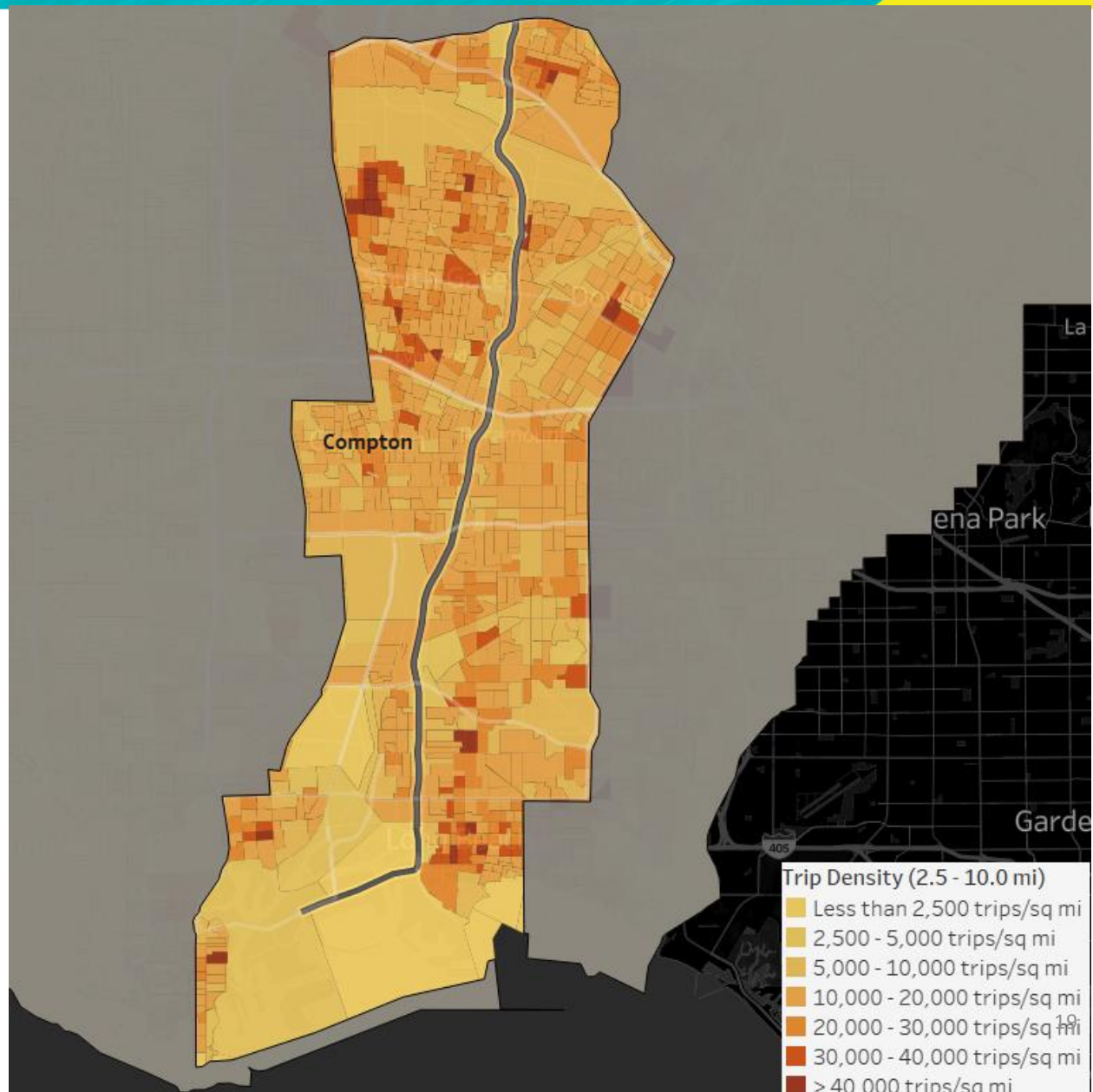
- Trips density for shorter trips originating/ending within the corridor
- Darker colors show greater density
- Areas with more short trips may be areas to focus active transportation improvements



Source: LOCUS

Trip Density – Trips 2.5 Miles to 10 Miles

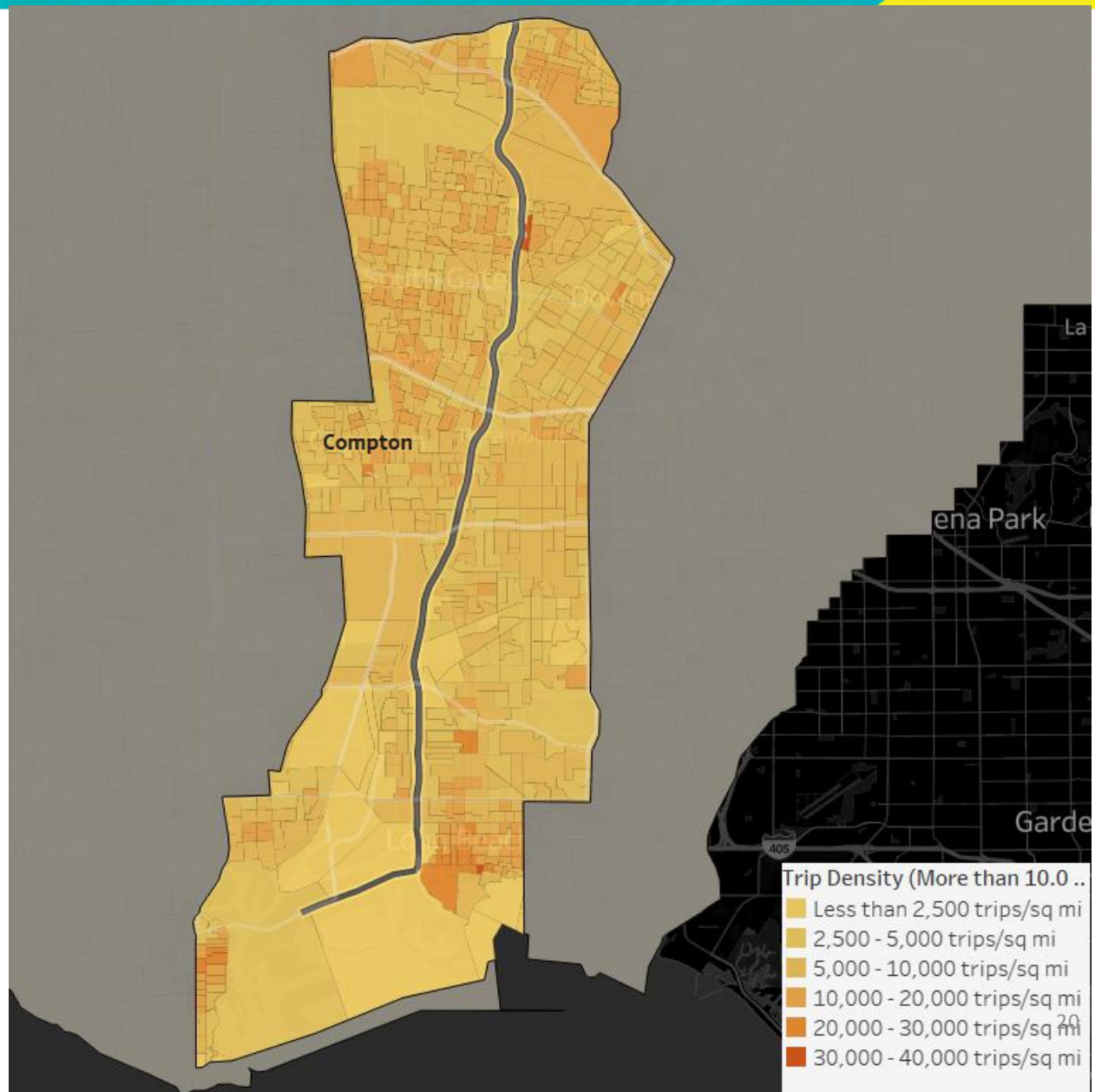
- Trip density for medium length trips originating/ending within the corridor
- Darker colors show greater density
- Areas with concentrations of trips 2.5 –10 miles long may be focus for transit improvements; especially local bus



Source: LOCUS

Trip Density – Trips Over 10 Miles

- Trips density for longer trips originating/ending within the corridor
- Darker colors show greater density
- Areas with greater density of longer trips may be the focus of transit improvements including commuter buses, rail, and BRT

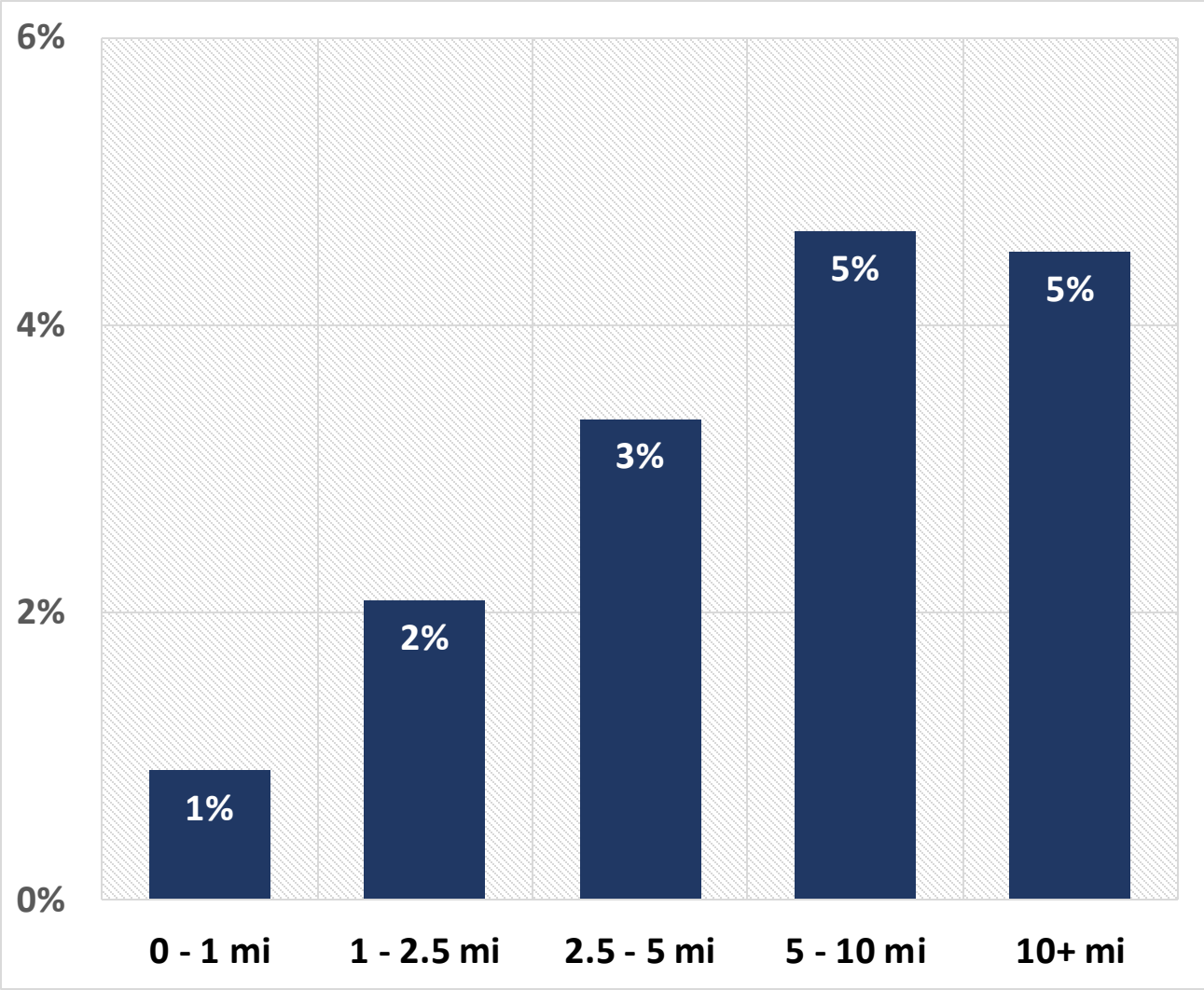


Source: LOCUS

Transit Travel

Metro

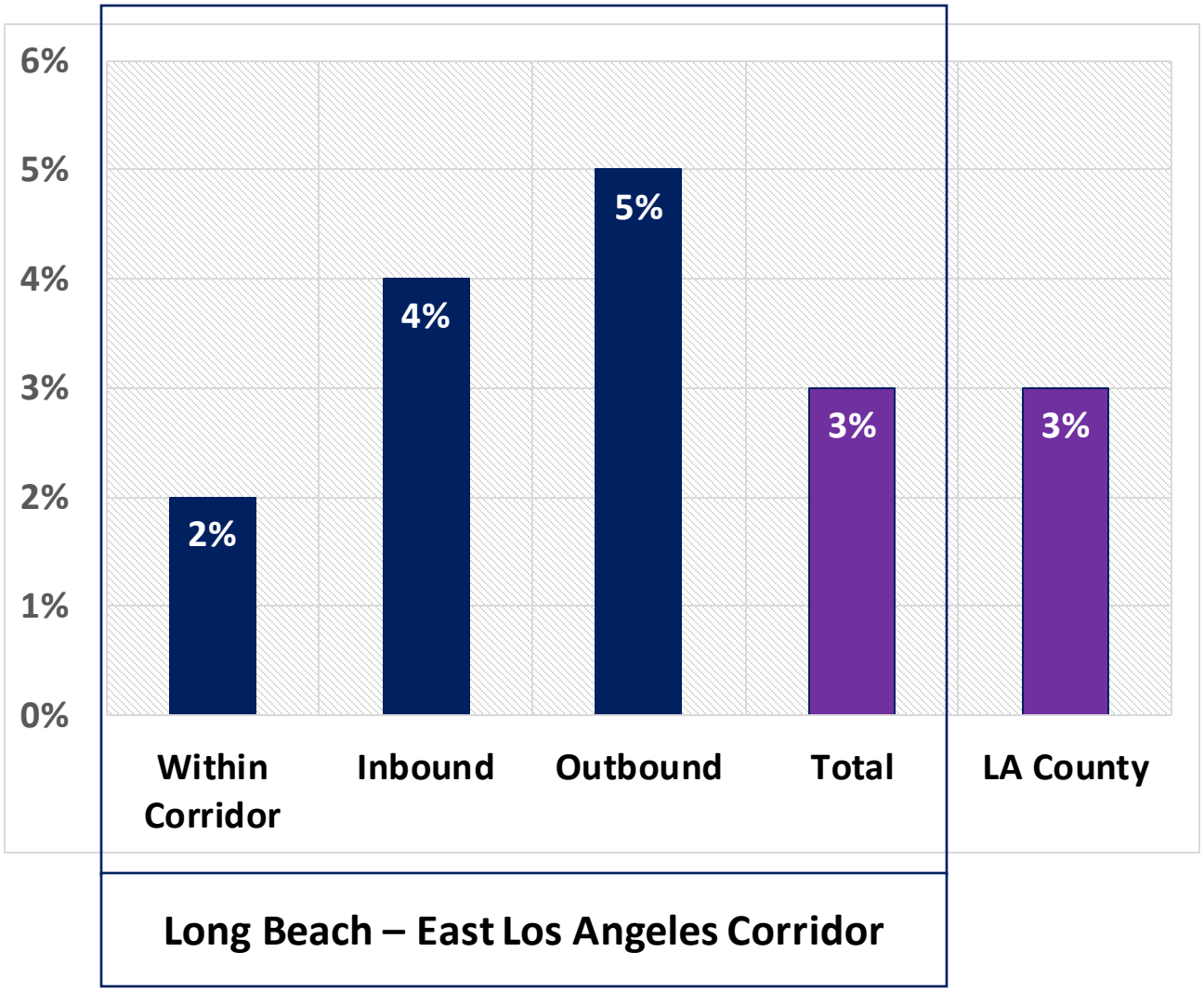
Transit Market Share by Trip Length



- Includes all transit trips that begin or end in the corridor
- Transit market share increases with trip distance i.e. transit is more competitive for longer trips

Source: LOCUS

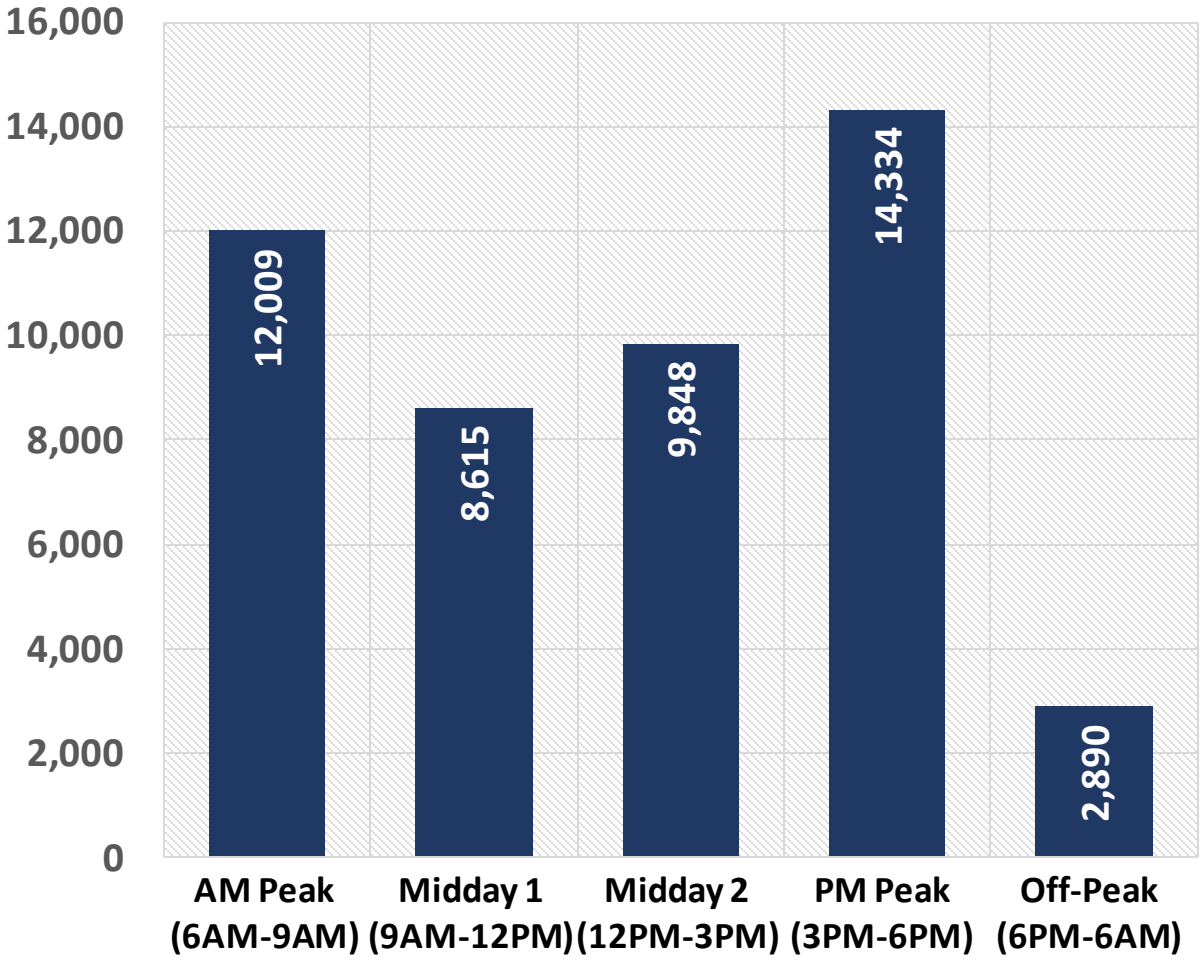
Transit Market Share



- Transit market share for the total travel market is similar to LA county (3%)
- 2% transit market share within the corridor is lower than:
  - Transit share for the entire corridor, and
  - Transit share across all the entire LA county
- Inbound and Outbound travel markets have higher market shares

Source: LOCUS

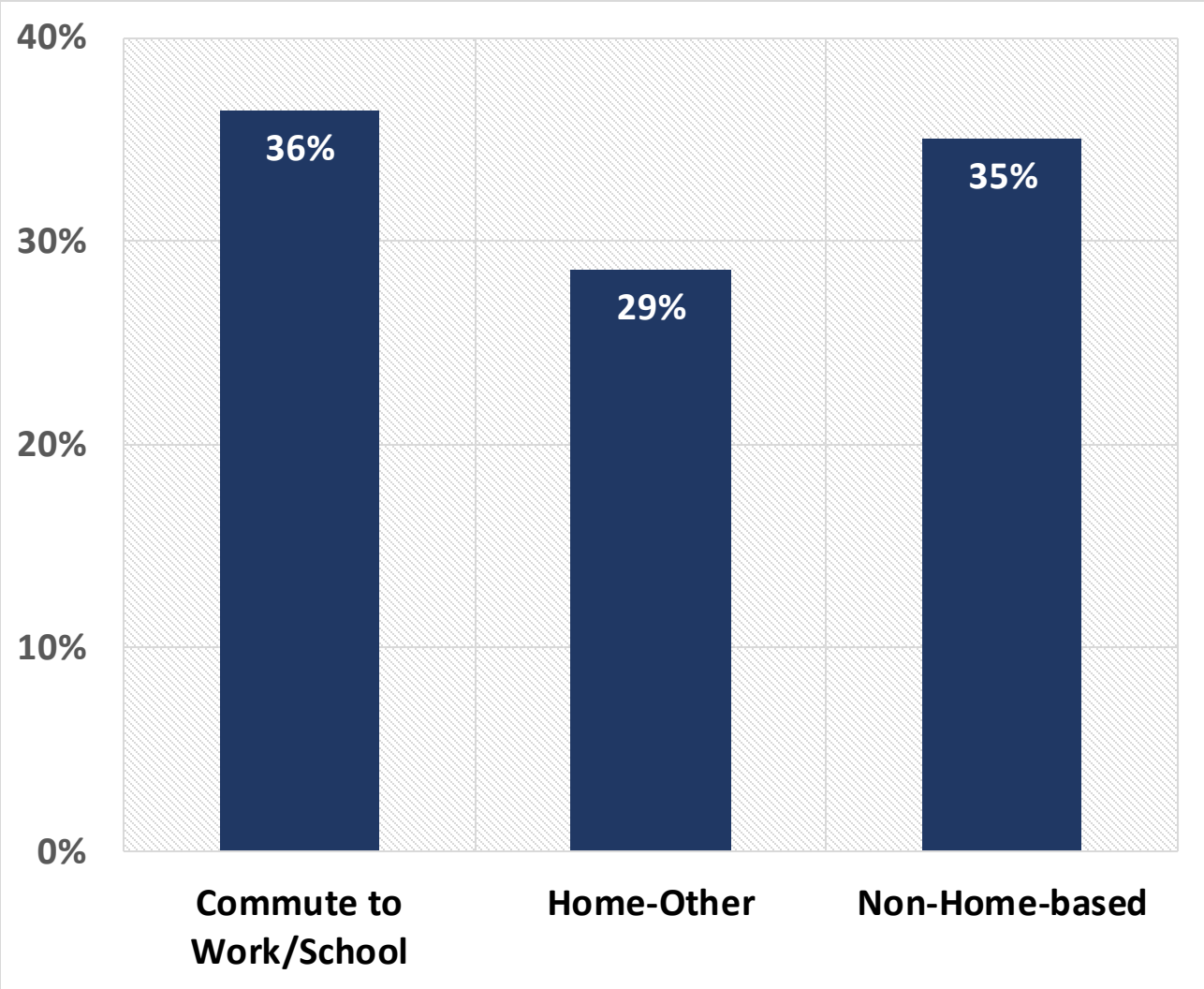
Hourly Transit Trips by Time of Day



- PM peak period generates the highest hourly total transit trips

Source: LOCUS

Transit Trip Purposes



- Over one-third of transit trips are commuting trips
- 65% of transit trips have one end at home (commute, home-other)

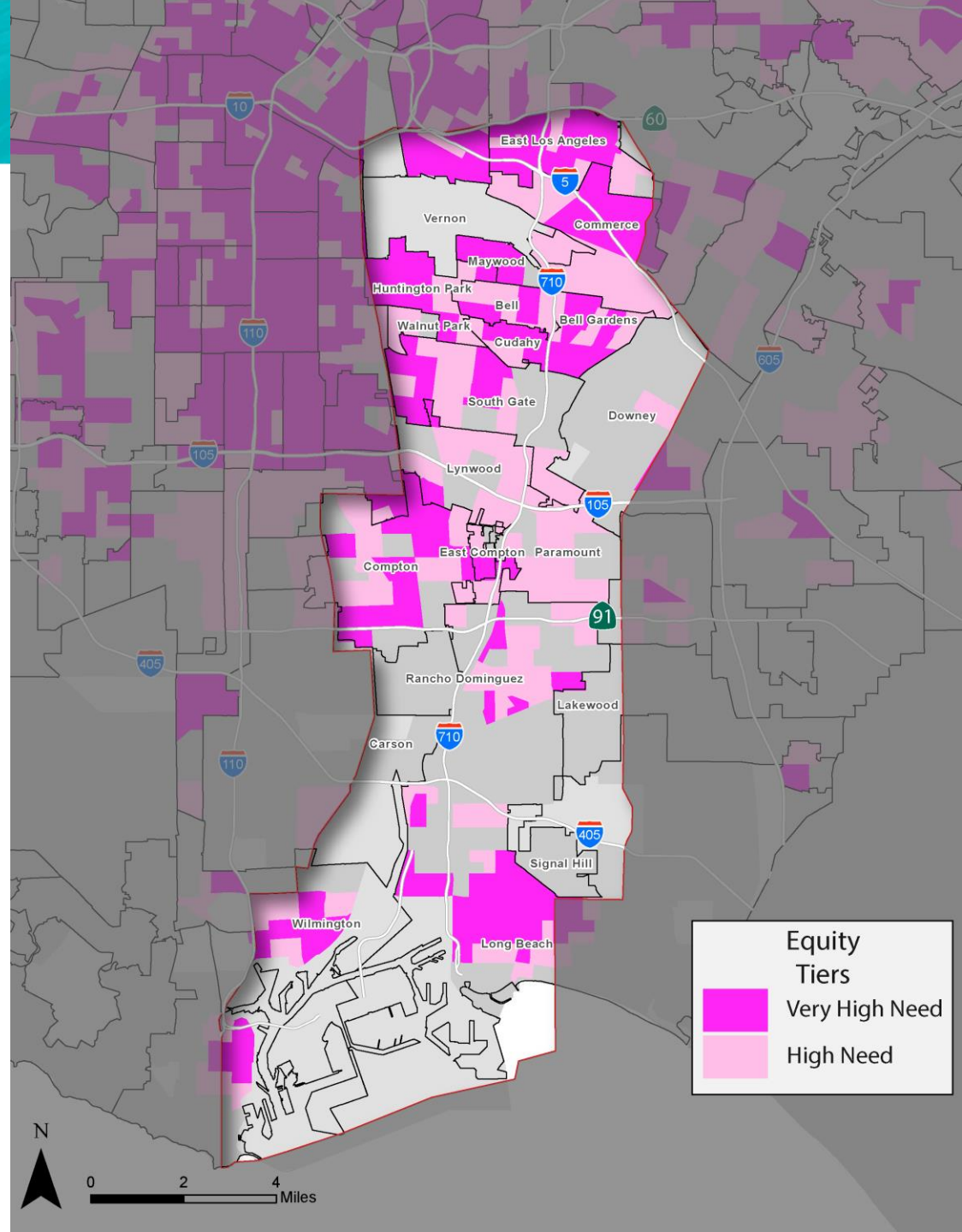
Source: LOCUS

Equity Focus Communities Travel Patterns

Metro

EFC Zones in the Corridor

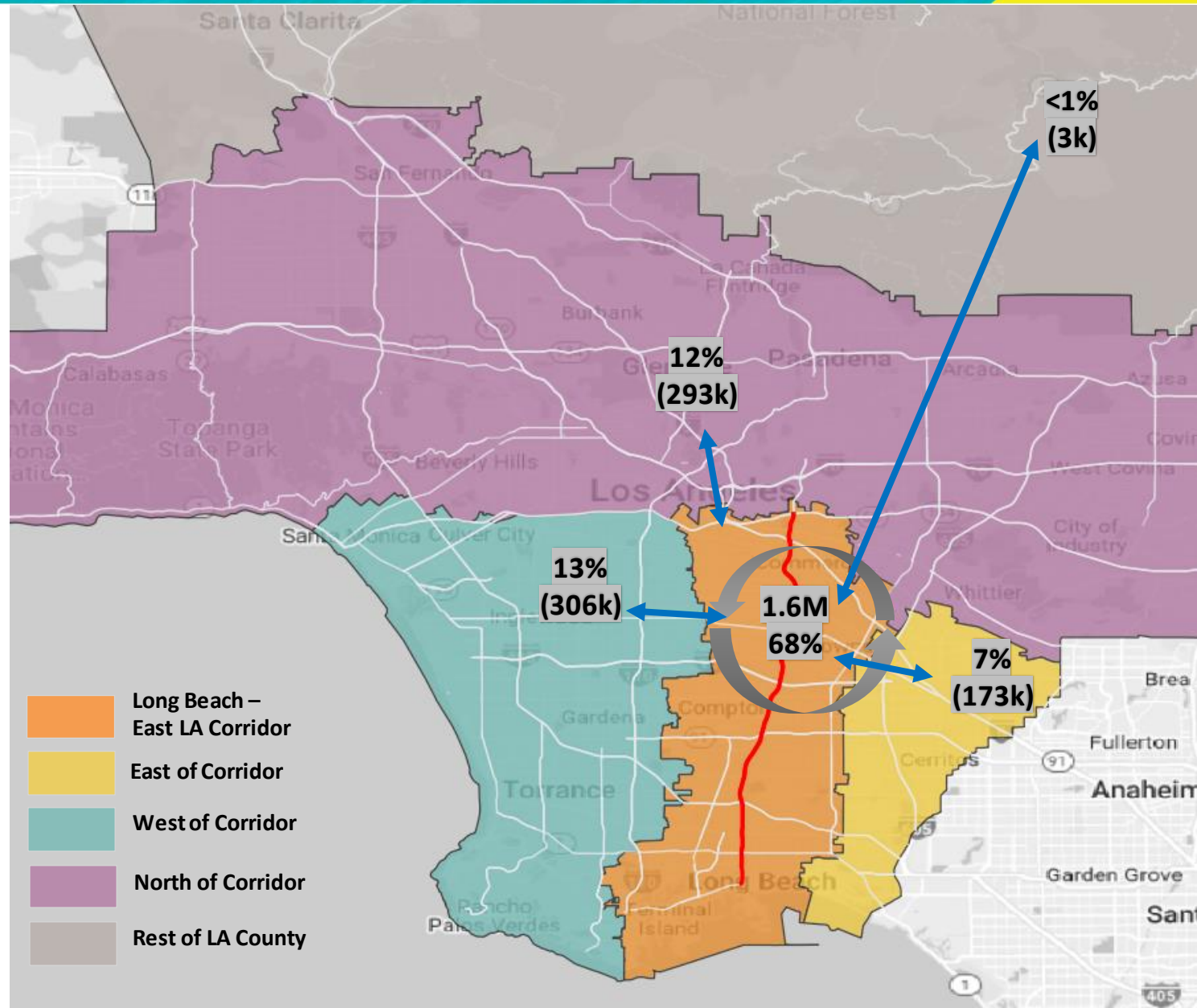
- Metro's latest definitions of Equity Focus Communities (EFC) are used for the equity-related travel assessments



Source: LA Metro EFC Update

Origin-Destination Patterns – Corridor EFC Residents

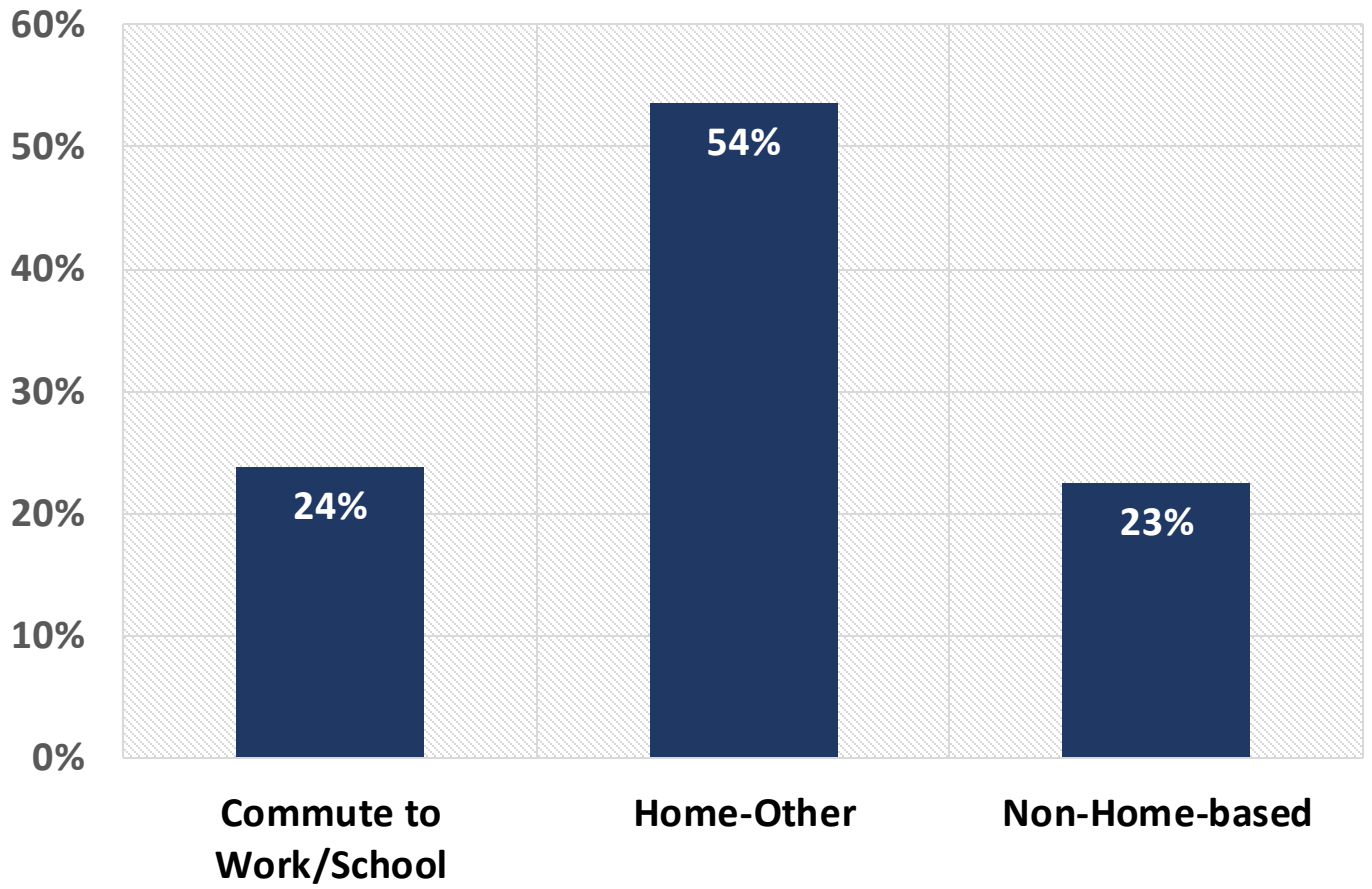
- Trips made by residents of EFC zones in the corridor (2.4M on average weekday ~70% of trips by corridor residents)
- Just over two-thirds of these trips stay within the corridor
- West and North regions capture 25% of the total travel



Source: LOCUS

Trip Purpose – All Trips to/from EFC Areas

- About 25% of the trips are commute trips – similar to the corridor-wide share
- Share of Home-Other Trips for EFC zone trips is higher than the corridor-wide share (54% vs 46%).

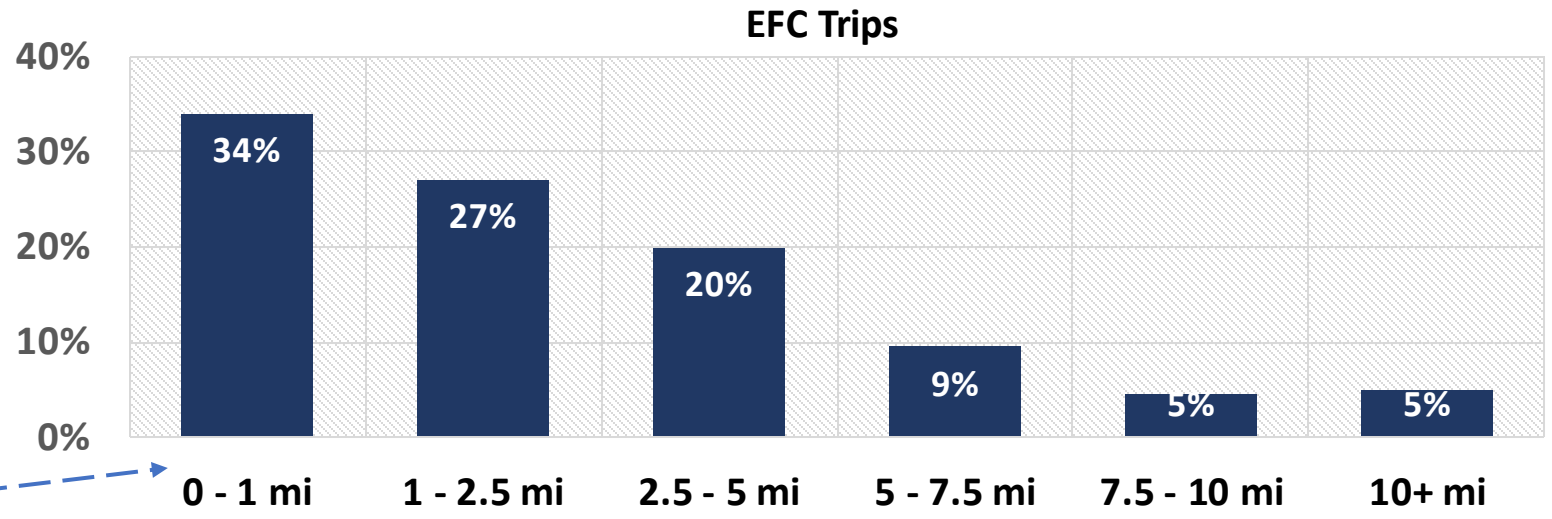


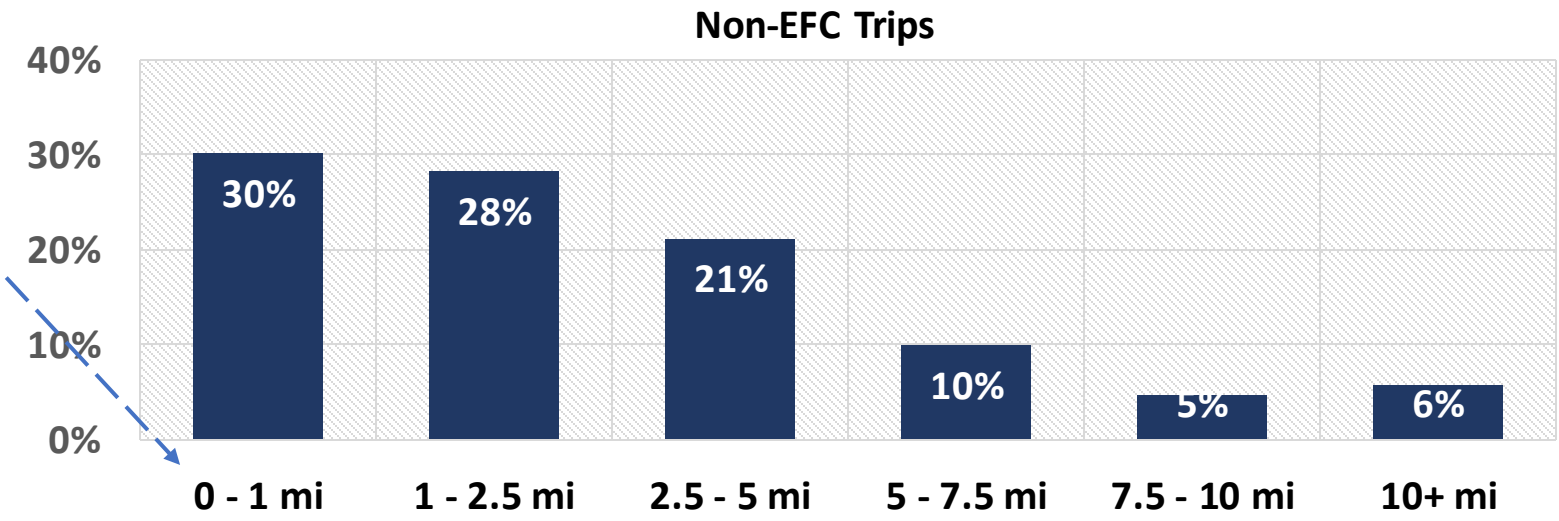
Metro

Source: LOCUS

Trip Length Distributions (Trips within the Corridor)

EFC residents generate more short distance trips





Metro

Source: LOCUS

Key Findings

Key Findings: Corridor Trip Characteristics

- Trips characteristics presented based on LOCUS data for 2019 Q3&Q4
  - Smartphone app location-based services data and transit ridership data.
- Average Weekday Trips in Corridor:
  - 5.4 Million trips being or end in the corridor
  - 3.5 Million trips by corridor residents
- Trip Purposes: 24% commuting trips; 70-75% have one trip end at home
- Trip Lengths & Trip End Densities:
  - Short Trips (<2.5 miles): Targets for Active Transportation improvements
  - Medium Trips (2.5 to 10 miles): Targets for Local Bus Service
  - Longer Trips (>10 miles): Targets for commuter bus, BRT, or rail.
- Transit market share for corridor trips averages 3%
- Equity Focus Community Needs:
  - 2.4 million average weekday trips completed by EFC residents; 2/3rds of which stay within the corridor.

Metro

Keir Opie
Principal
Cambridge Systematics
Cell 347.703.4170
Office 646.364.5473
kopie@camsys.com

Stay connected to this project

Michael Cano, LA Metro Executive Officer (interim)
Federal/State Policy & Programming
Countywide Planning & Development

213.418.3010 W
213.305.0423 C

710corridor@metro.net

metro.net/projects/i-710-corridor

@metrolosangeles

losangelesmetro

Metro

Thank you!

Metro