

BRIEFING BOOK
FAIRFAX CITY
MULTIMODAL TRANSPORTATION PLAN

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The background of the page is a light green map of a city street grid. A specific region in the center-left is outlined with a darker green border. The text 'REGIONAL TRANSPORTATION AND TRENDS' is centered in a white box over the top half of the map.

REGIONAL TRANSPORTATION AND TRENDS

FAIRFAX CITY IN THE REGION

Fairfax City is well positioned in the regional transportation system, surrounded by multiple significant regional transportation assets such as Dulles Airport, the Metro Orange Line, and regional trails. Although in close proximity, most generally must be accessed by vehicle.

FIGURE 1 REGIONAL TRAILS, TRANSIT, AND ROADWAY ASSETS/FACILITIES

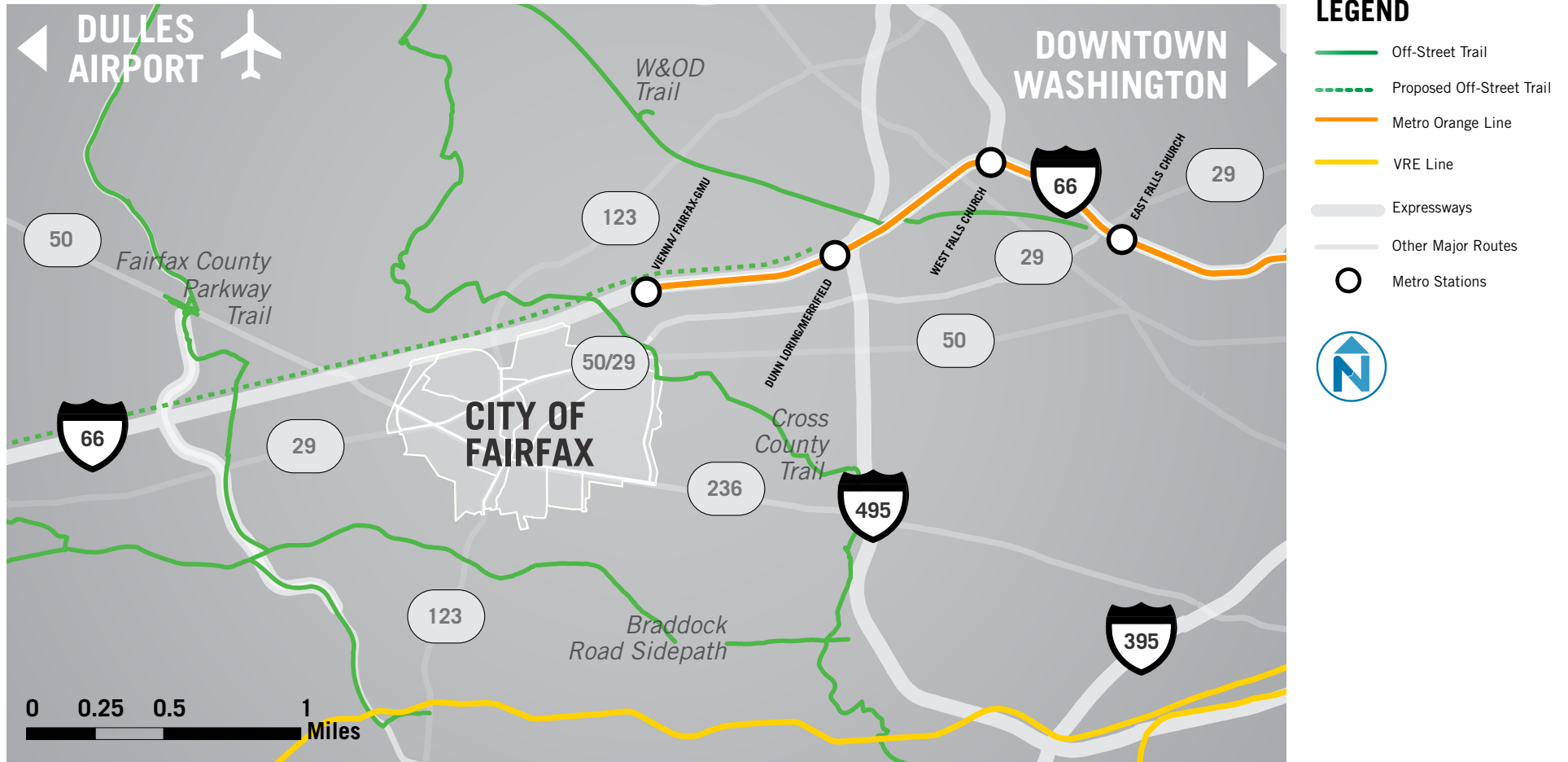
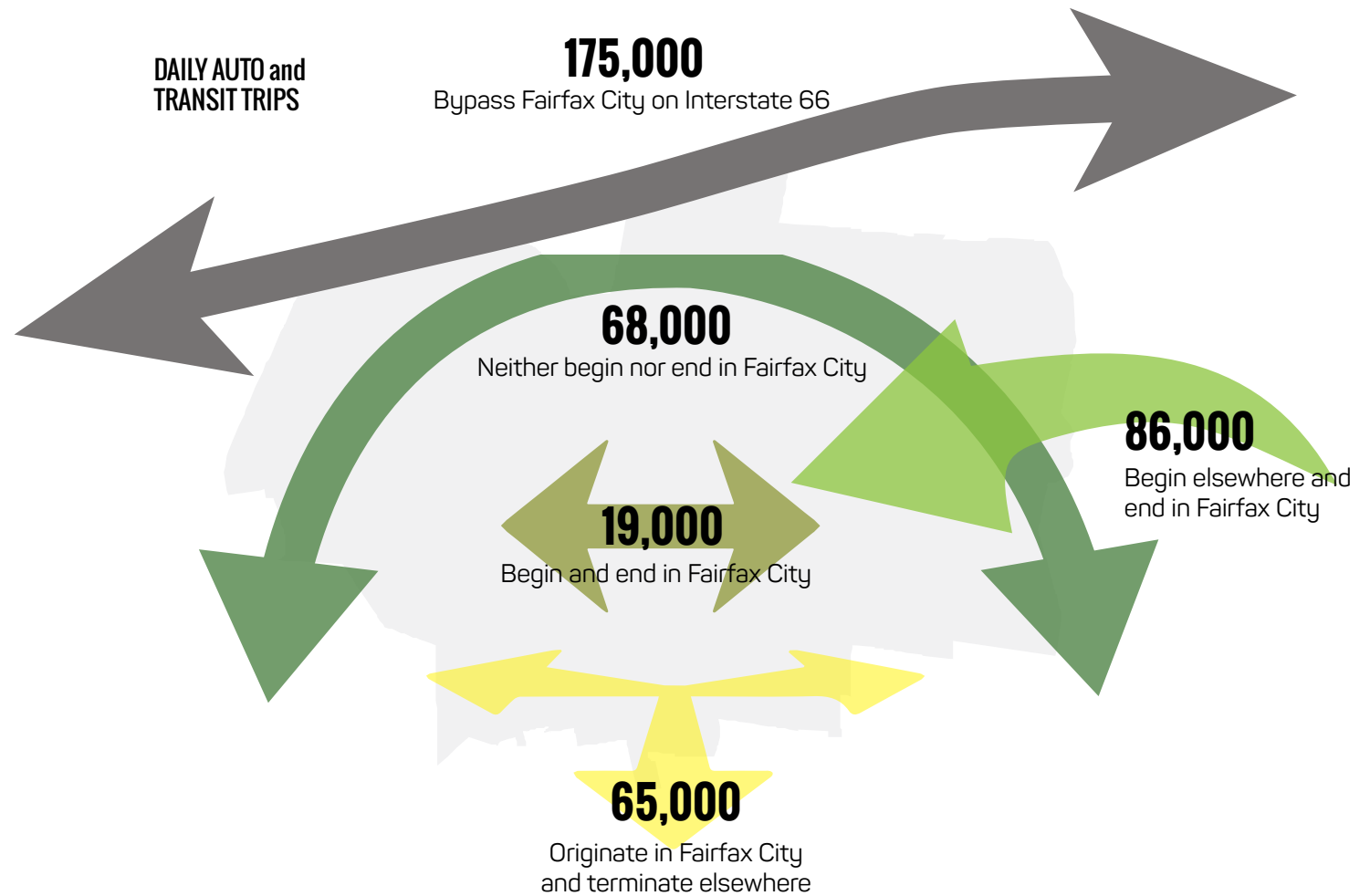


FIGURE 2 DAILY TRIPS TO, FROM, AND THROUGH FAIRFAX CITY

Over one quarter of all daily trips taken on Fairfax City streets pass through the city without either origin or destination within in the city.

175,000 daily trips bypass Fairfax City on Interstate 66, just outside the northern city boundary.



SOURCE: MWCOG 2.3 v57a Model, 2015

FIGURE 3 VEHICLE VOLUMES

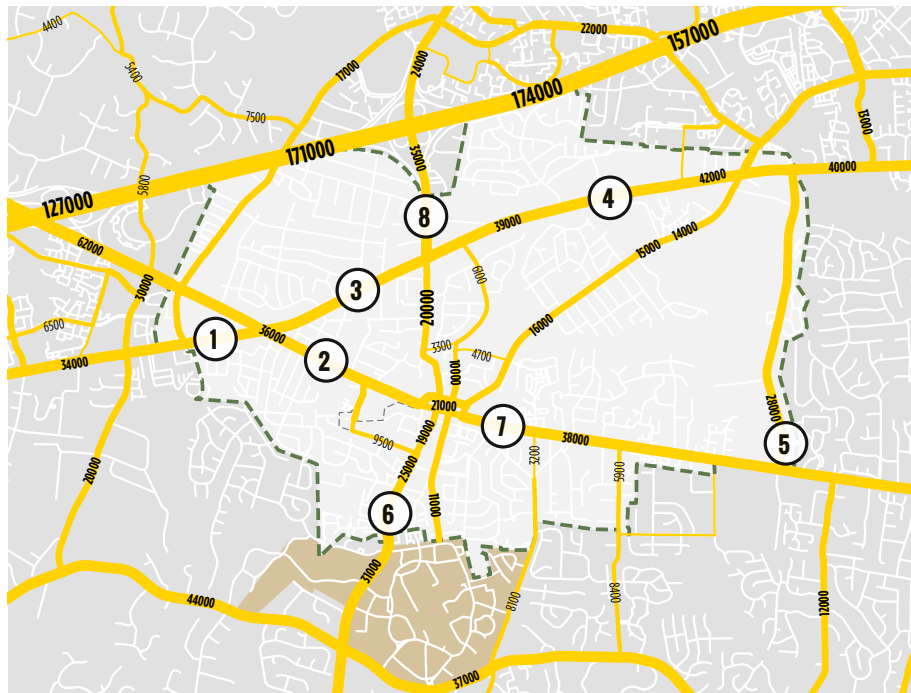
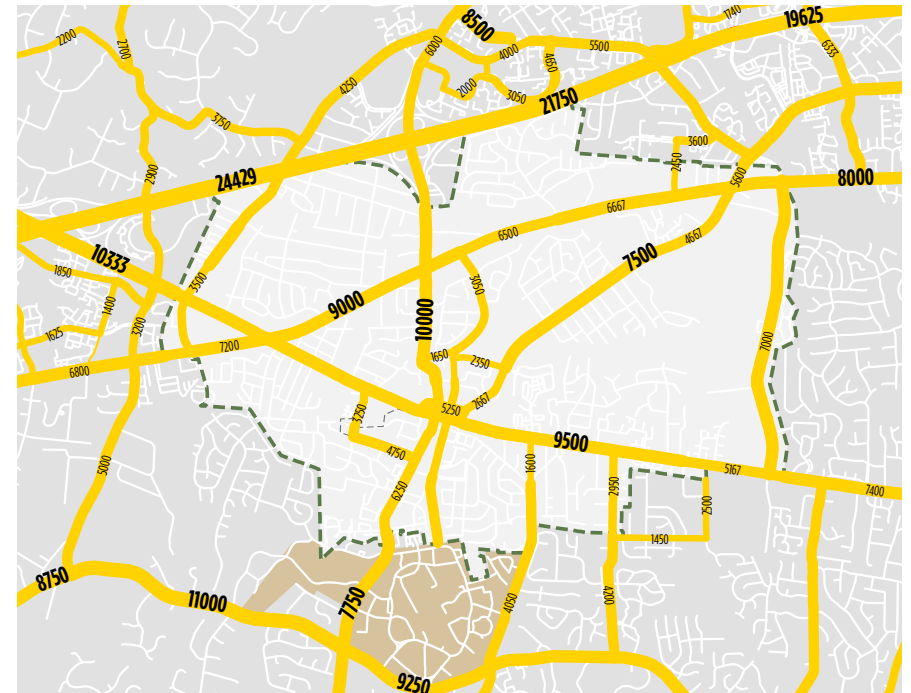


FIGURE 4 PER LANE VEHICLE VOLUMES

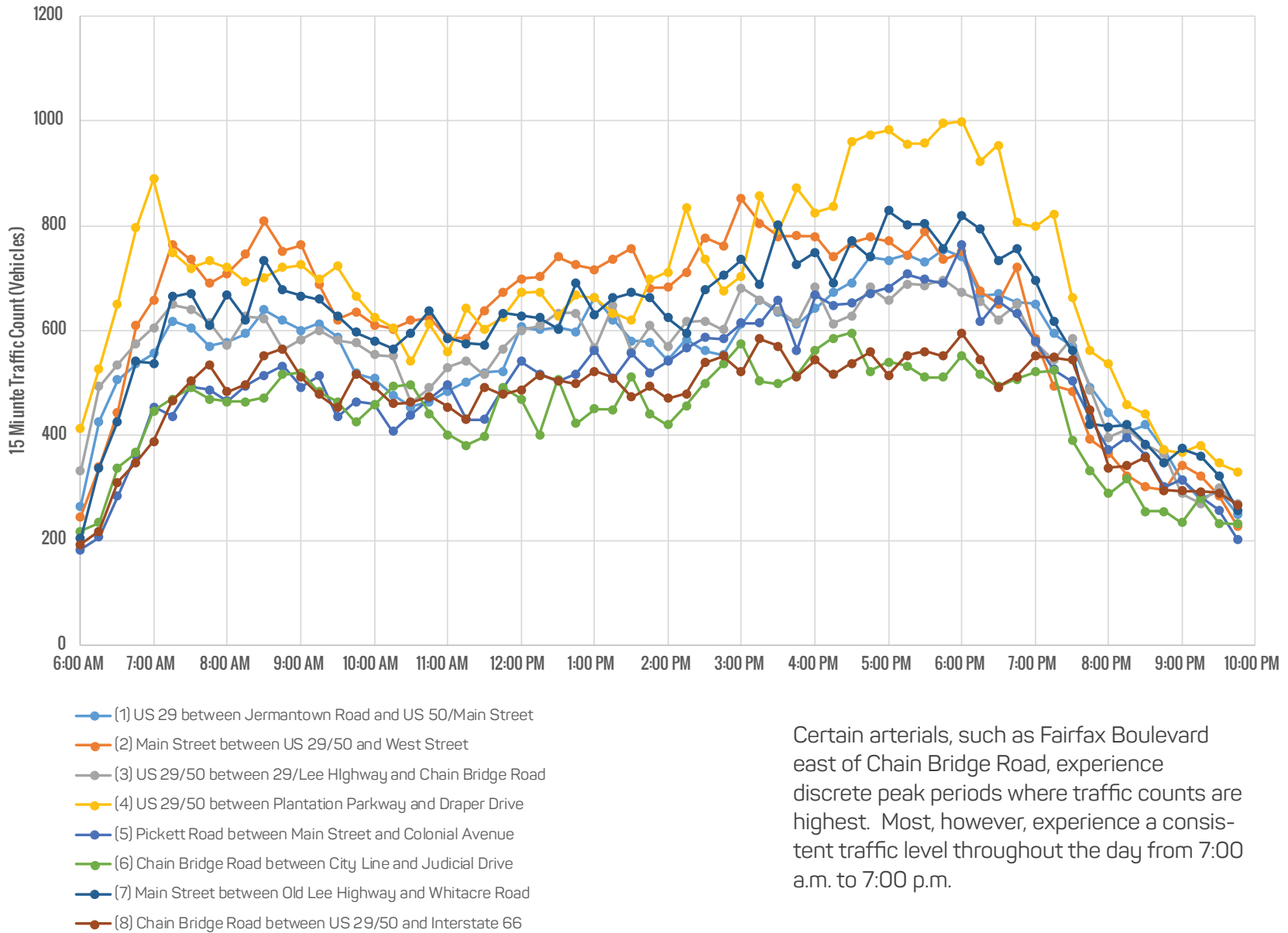


SOURCE: Virginia Department of Transportation, 2014

1. US 29 between Jermantown Road and US 50/Main Steet
2. Main Street between US29/50 and West Street
3. US 29/50 between 29/Lee Highway and Chain Bridge Road
4. US 29/50 between Plantation Parkway and Draper Drive
5. Pickett between Main Street and Colonial Avenue
6. Chain Bridge Road between City Line and Judicial Drive
7. Main Street between Old Lee Highway and Whitacre Road
8. Chain Bridge Road between US 29/50 and Interstate 66

Traffic volume is significantly higher on the east-west corridors of Fairfax Boulevard and Main Street compared with Old Lee Highway or Chain Bridge Road between Fairfax Boulevard and North Street. These figures normalize to a large extent when the number of lanes is taken into account, showing that Chain Bridge Road is more often operating in a congested state.

FIGURE 5 15 MINUTE TRAFFIC TRENDS



SOURCE: Quality Counts, 2012

Certain arterials, such as Fairfax Boulevard east of Chain Bridge Road, experience discrete peak periods where traffic counts are highest. Most, however, experience a consistent traffic level throughout the day from 7:00 a.m. to 7:00 p.m.

RESIDENT AND WORKER COMMUTE

FIGURE 6 RESIDENT AND WORKER COMMUTE

With respect to commute trips originating in or destined to Fairfax City, 57 percent are made by non-city residents traveling into Fairfax City for work. 39 percent are Fairfax City residents commuting elsewhere on a daily basis. Only 4 percent of commute trips are generated by those who both live and work in Fairfax City.

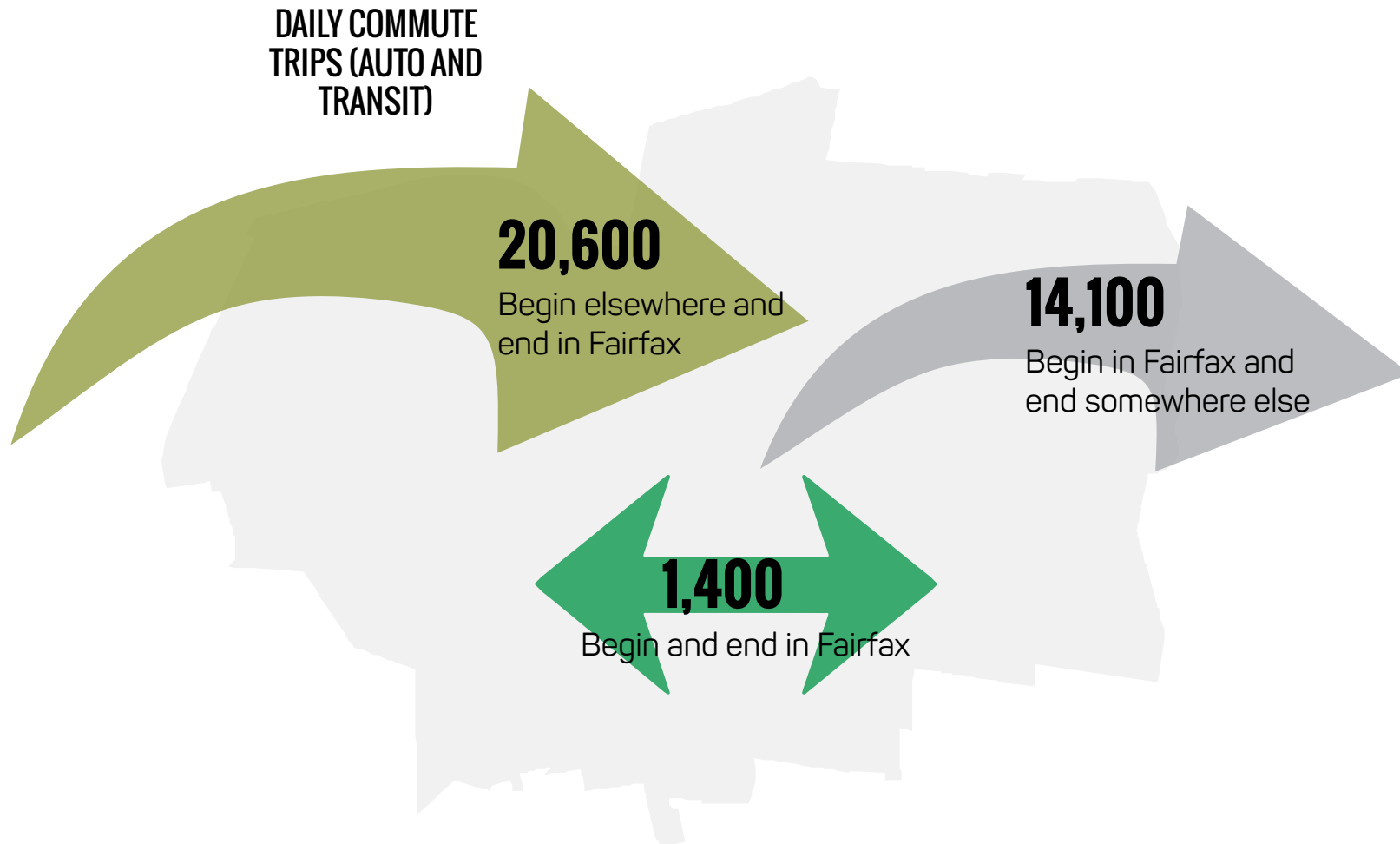
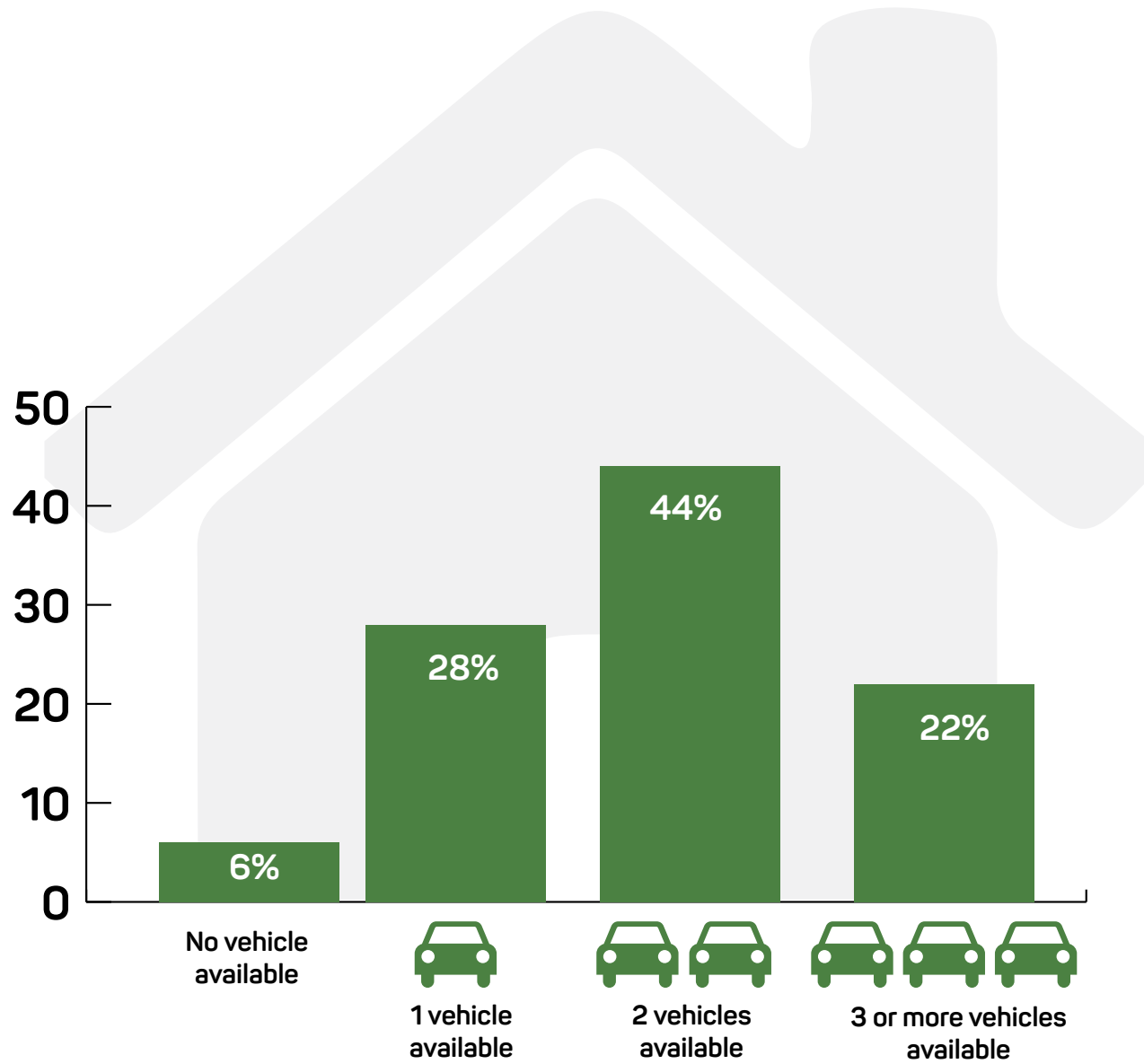


FIGURE 7 VEHICLE OWNERSHIP

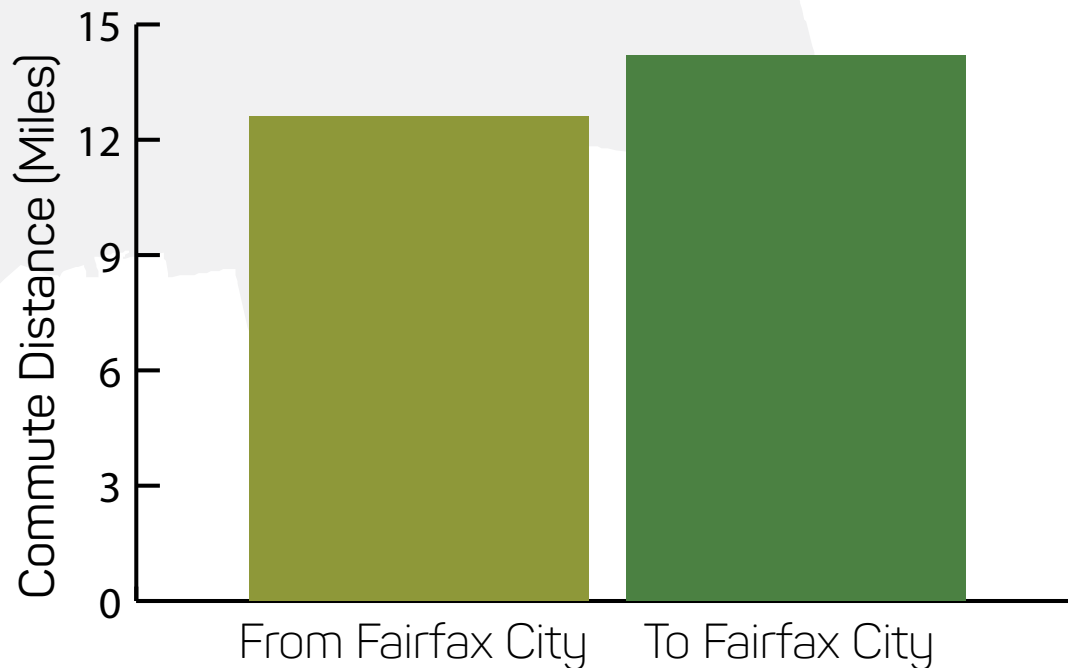
The vast majority of households (94 percent) in Fairfax City have at least one vehicle available for use. Approximately two-thirds of those households have two or more vehicles available, while almost one quarter of households make use of three or more personal automobiles.



SOURCE: American Community Survey Dataset B08201, 2014

FIGURE 8 AVERAGE COMMUTE DISTANCE

The average commute distance for single-occupancy vehicles and carpools into and out of Fairfax City is relatively short in terms of distance. The average commute time for those who live in Fairfax City and work elsewhere is 12.6 miles while workers commuting into Fairfax City travel 14.2 miles on average for each trip spending roughly 35 minutes in each direction.



35 MIN COMMUTE
From Fairfax City



36 MIN COMMUTE
To Fairfax City

FIGURE 9 MODESHARE COMPARISON (COMMUTE)

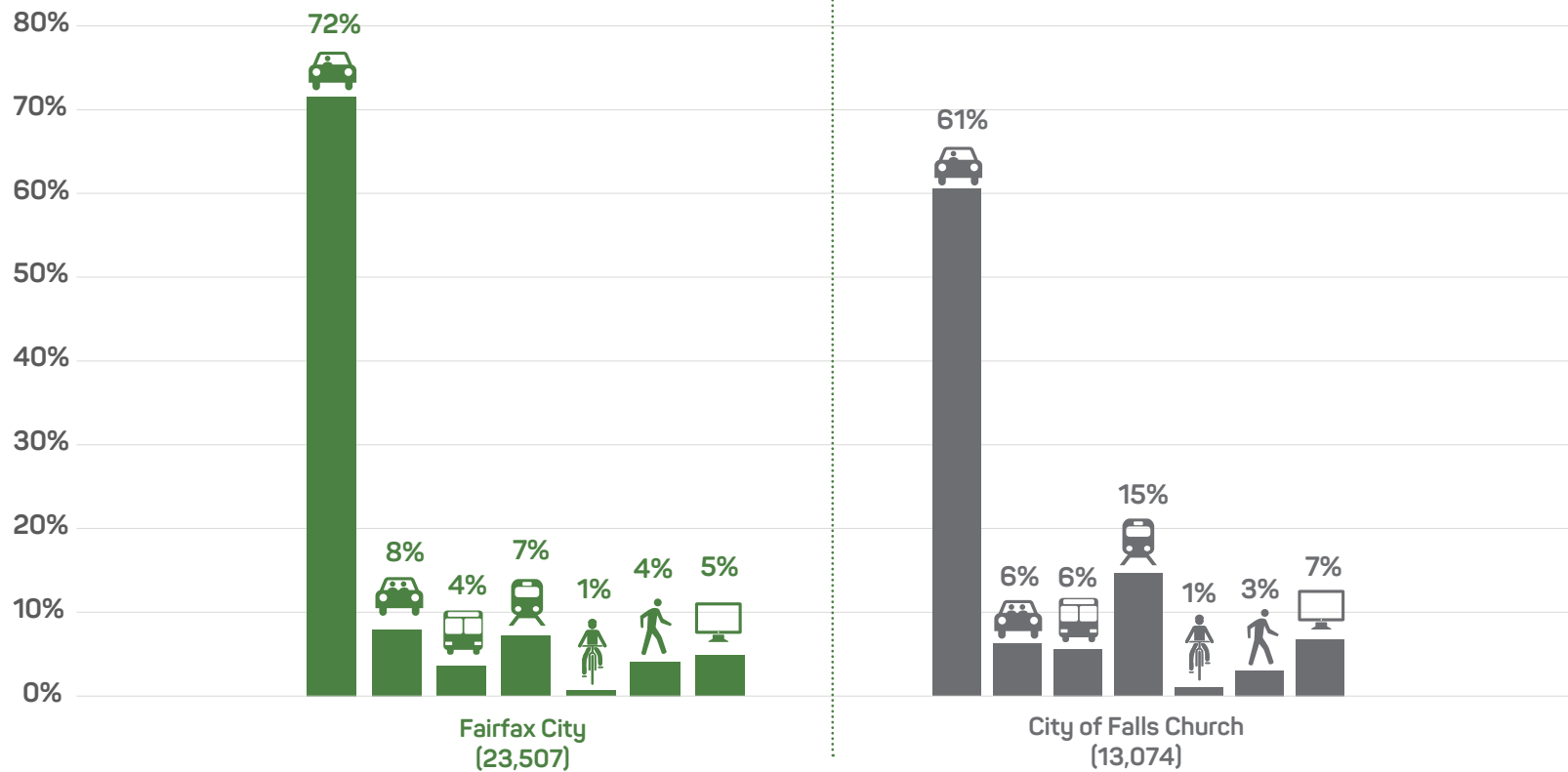
FAIRFAX COUNTY

1,117,072 Residents



Fairfax City aligns with the mode share trends of the other localities and the region as a whole. Like Falls Church, Vienna, Tysons Center, Herndon, and the whole of Fairfax County, the primary commute mode is by single occupancy vehicle.

No alternative commute mode in Fairfax City is utilized for more than 10 percent of commute trips.



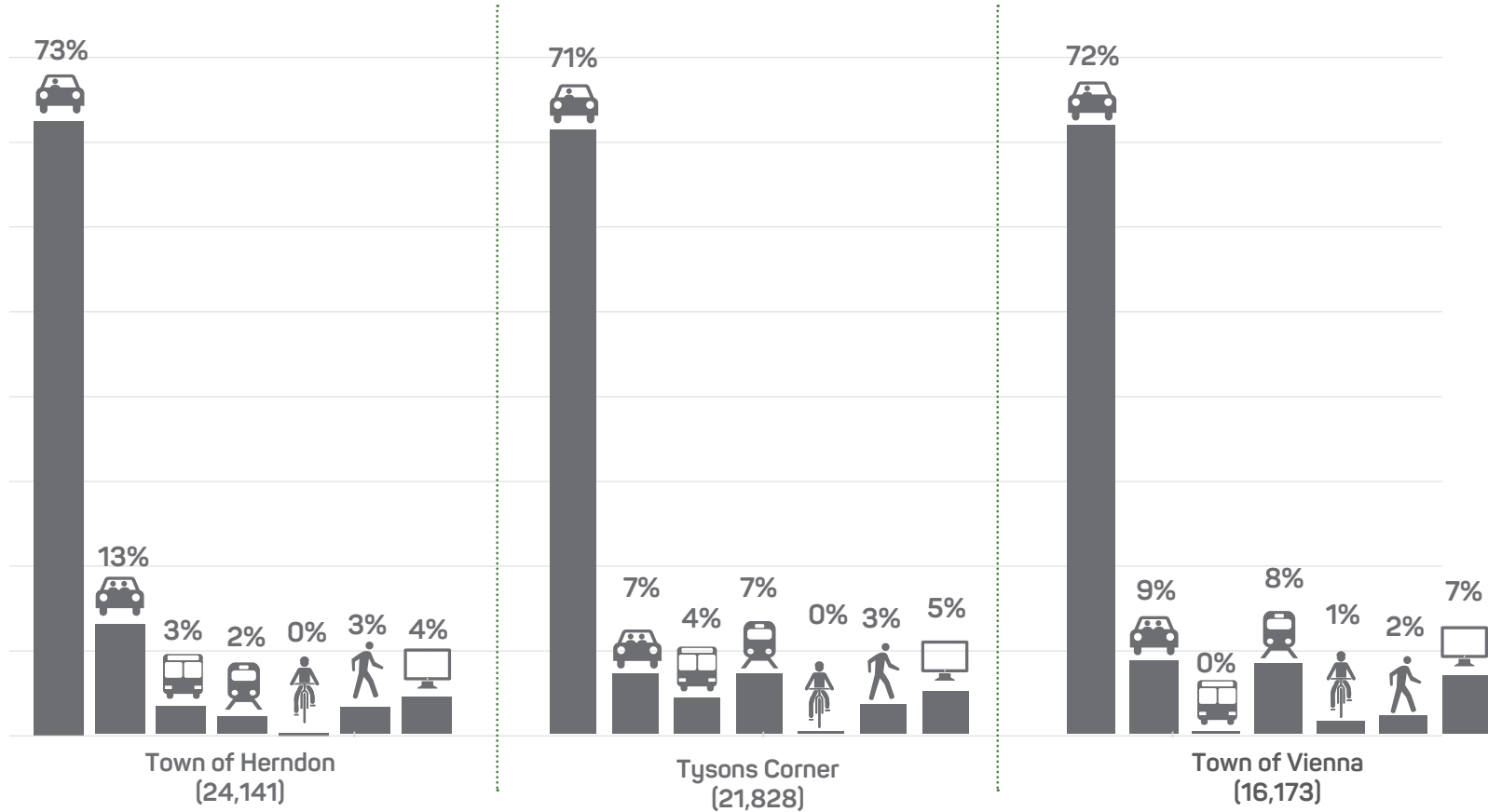
SOURCE: American Community Survey Dataset B08301, 2014

6%
METRO

1%
BIKE

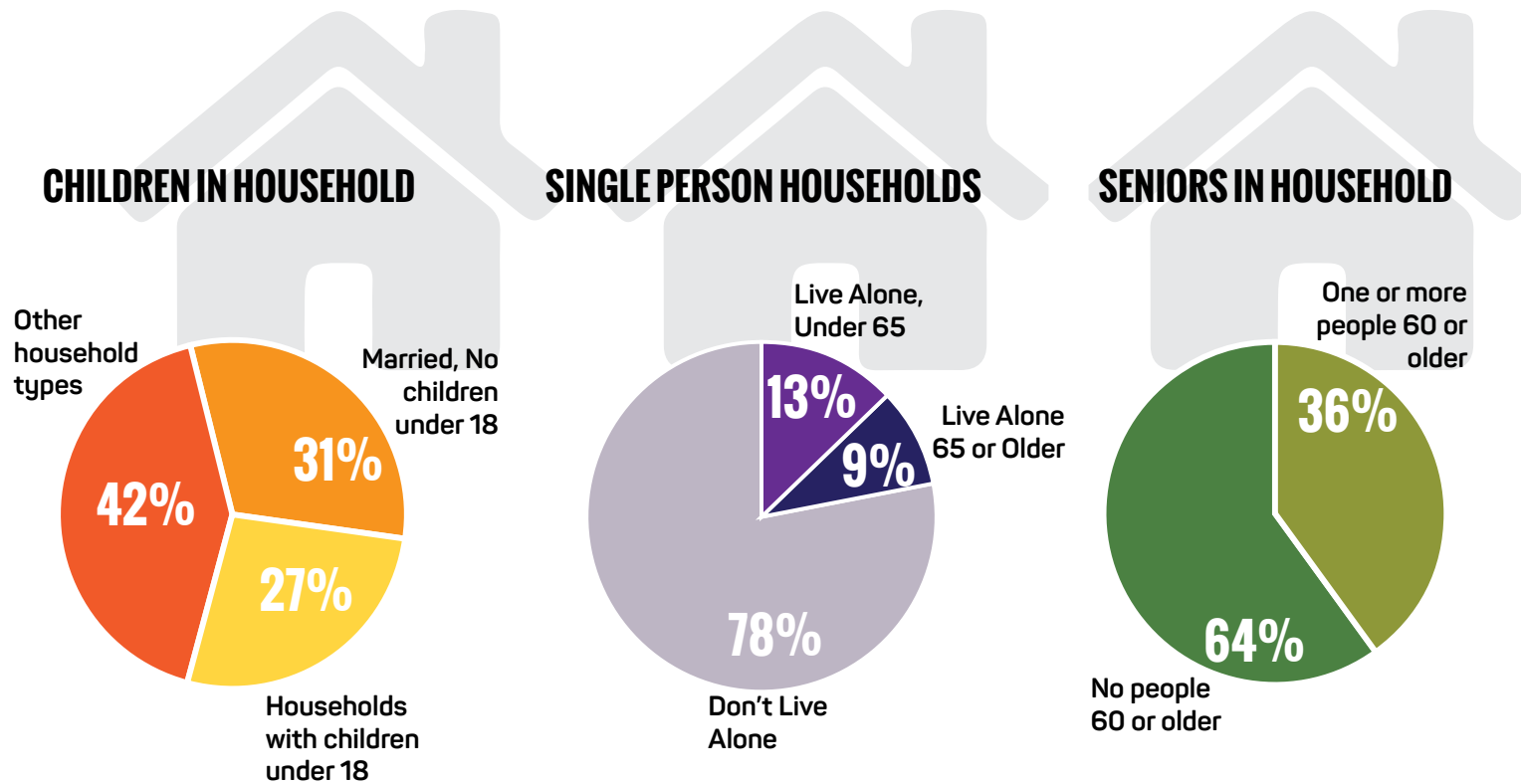
2%
WALK

6%
WORK FROM HOME



SOURCE: American Community Survey Dataset B08301, 2014

FIGURE 10 HOUSEHOLD STATUS



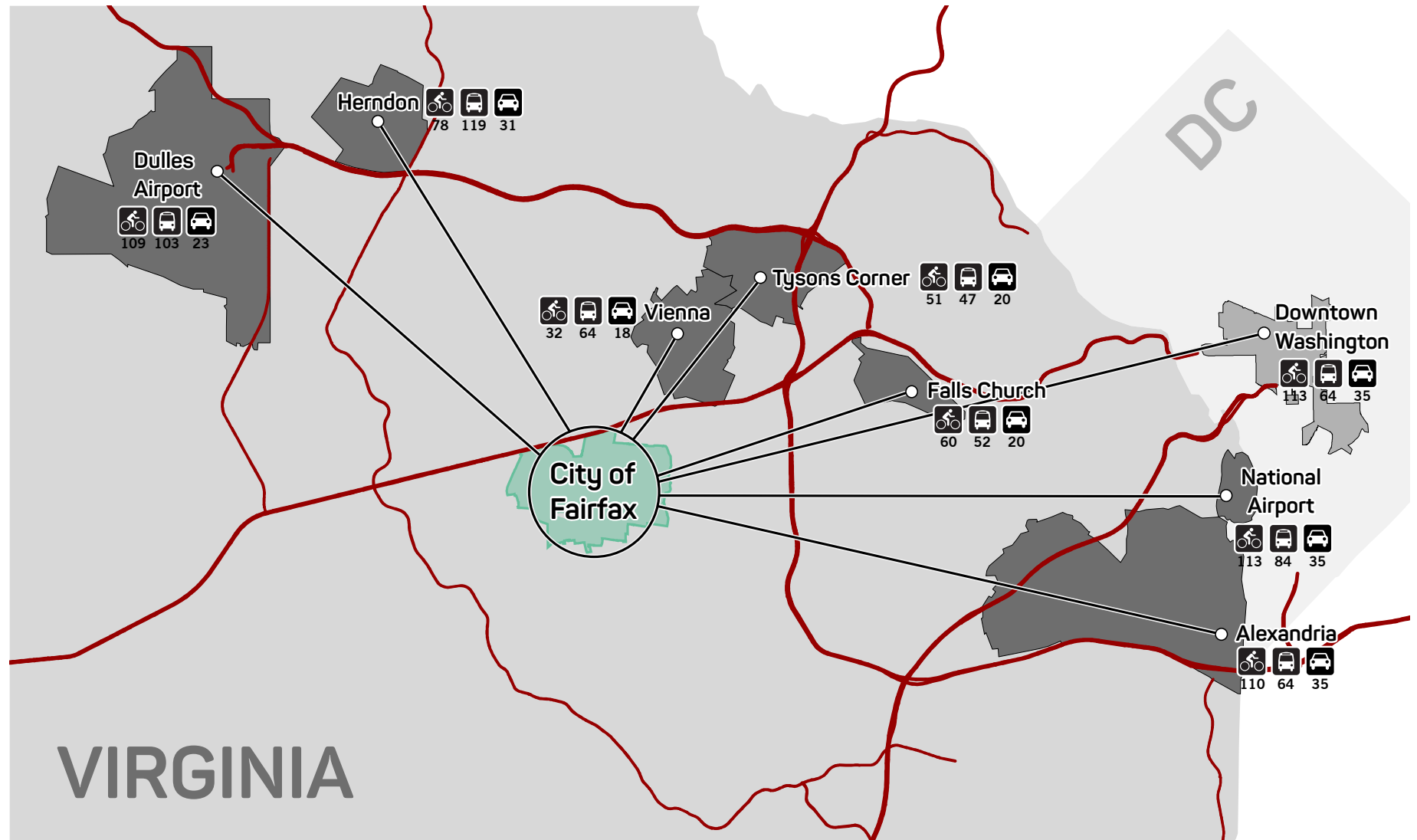
The presence or absence of non-driving members in a household - for example youth or elders - strongly influences household travel demand and trip patterns. Households with multiple residents have a greater opportunity to travel together than single-person households.

SOURCE: American Community Survey Dataset S1101, 2014

FAIRFAX CITY RELATIVE TO AREA DESTINATIONS

Fairfax City is well served by highway connections to regional destinations. Despite relatively close distances, trips by transit generally take over 45 minutes due to required transfers. Bicycling is possible, but cyclists face challenges due to gaps in dedicated facilities.

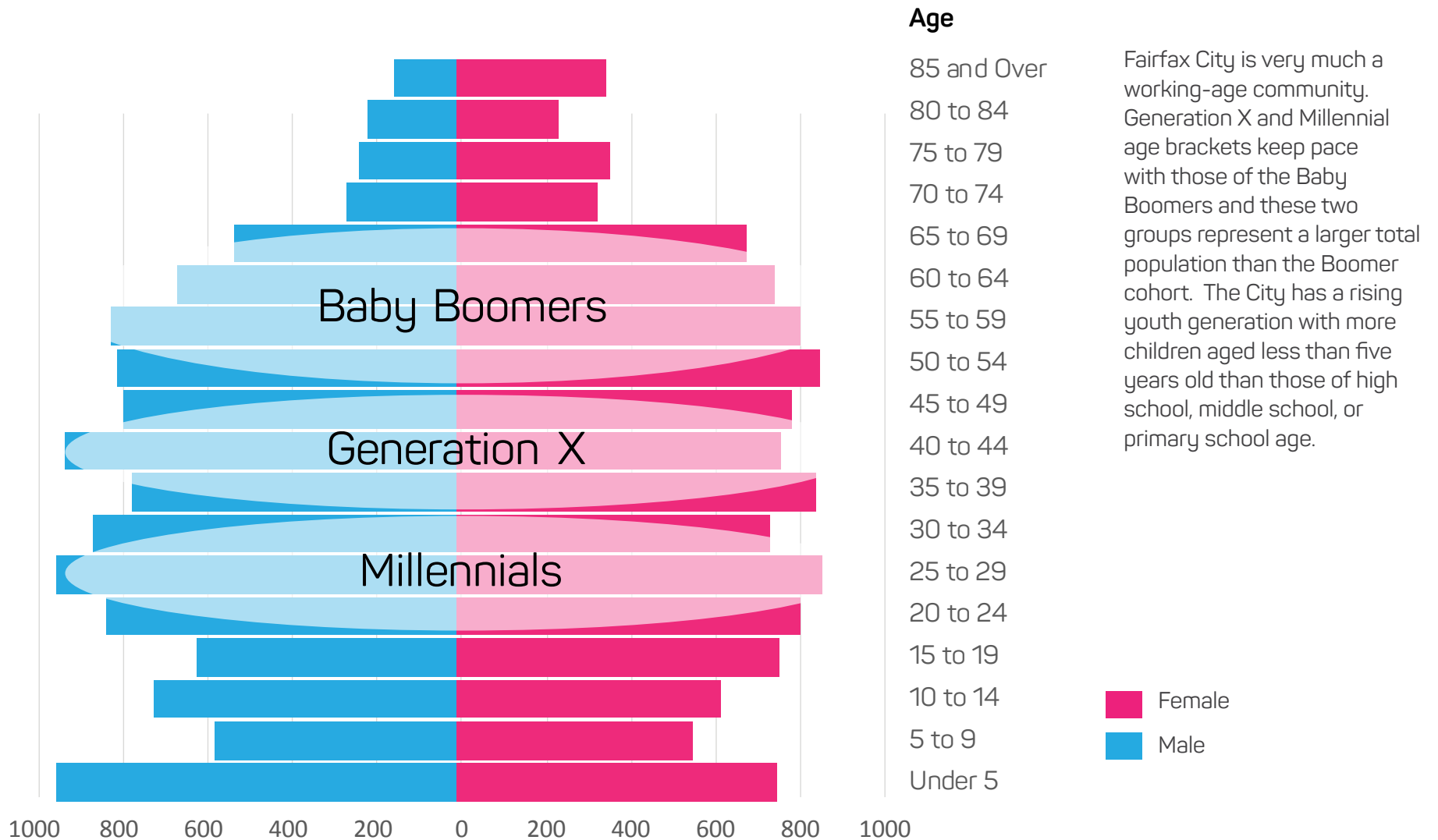
FIGURE 11 NON-PEAK TRAVEL TIMES



SOURCE: Google, 2016

FIGURE 12 AGE AND GENERATIONAL BREAKDOWN

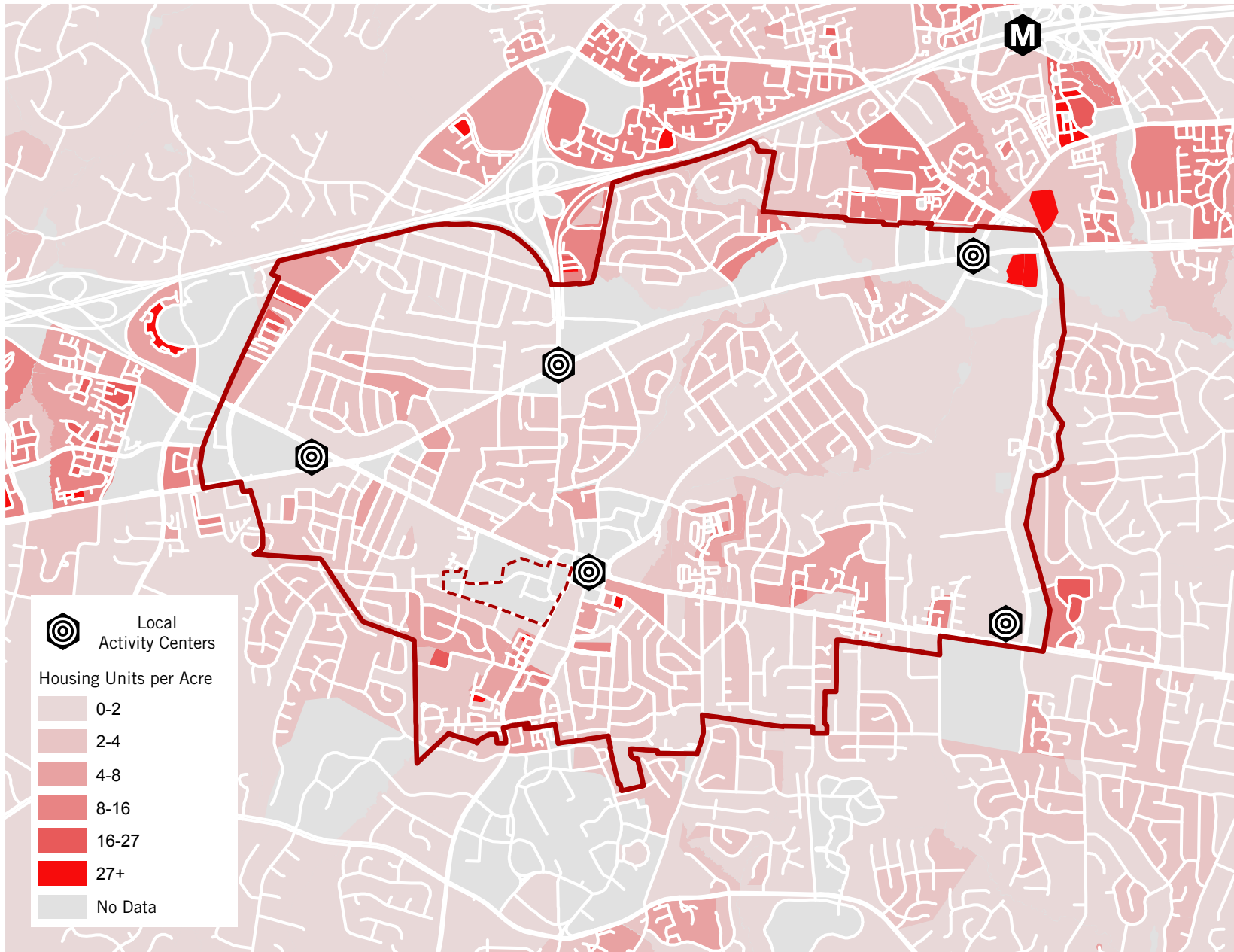
2014 Total Population: 23,507



SOURCE: American Community Survey Dataset B01001, 2014

Fairfax City is very much a working-age community. Generation X and Millennial age brackets keep pace with those of the Baby Boomers and these two groups represent a larger total population than the Boomer cohort. The City has a rising youth generation with more children aged less than five years old than those of high school, middle school, or primary school age.

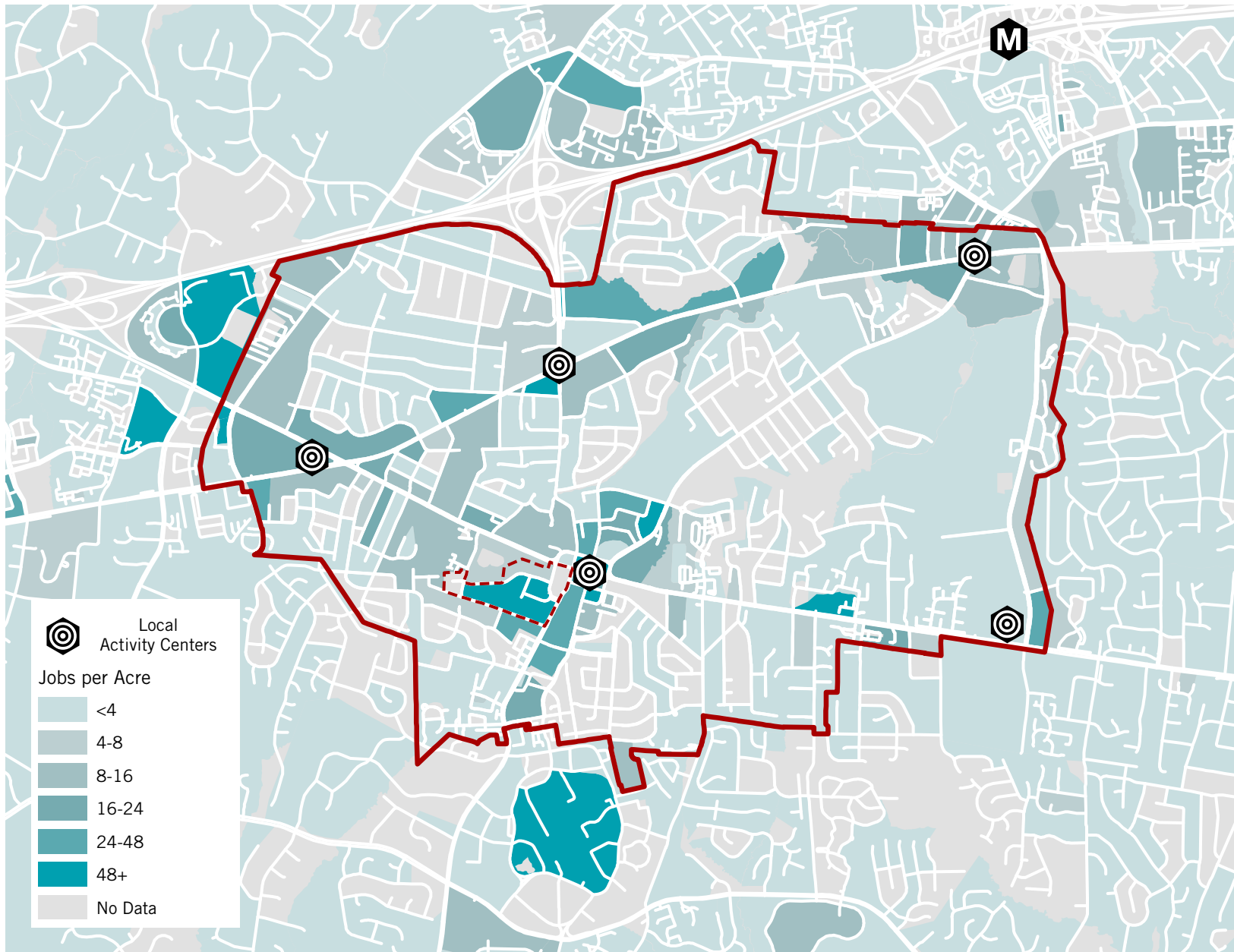
FIGURE 13 HOUSING DENSITY



A large portion of Fairfax City consists of lower density housing. Small pockets of higher density apartment complexes can be found at the edges of town near the Metro station, George Mason University, and the Kamp Washington local activity center.

SOURCE: Census Dataset HI, 2010

FIGURE 14 EMPLOYMENT DENSITY



Employment within Fairfax City is primarily concentrated in or near the five local activity centers. Significant employment concentrations are located just outside the city along major travel corridors to the North, West, South (George Mason University), and Northeast.

SOURCE: Longitudinal Employer-Household Dynamics Workplace Area Characteristics, 2014

FIGURE 15 POPULATION GROWTH TRENDS - FAIRFAX CITY AND COMPARABLES

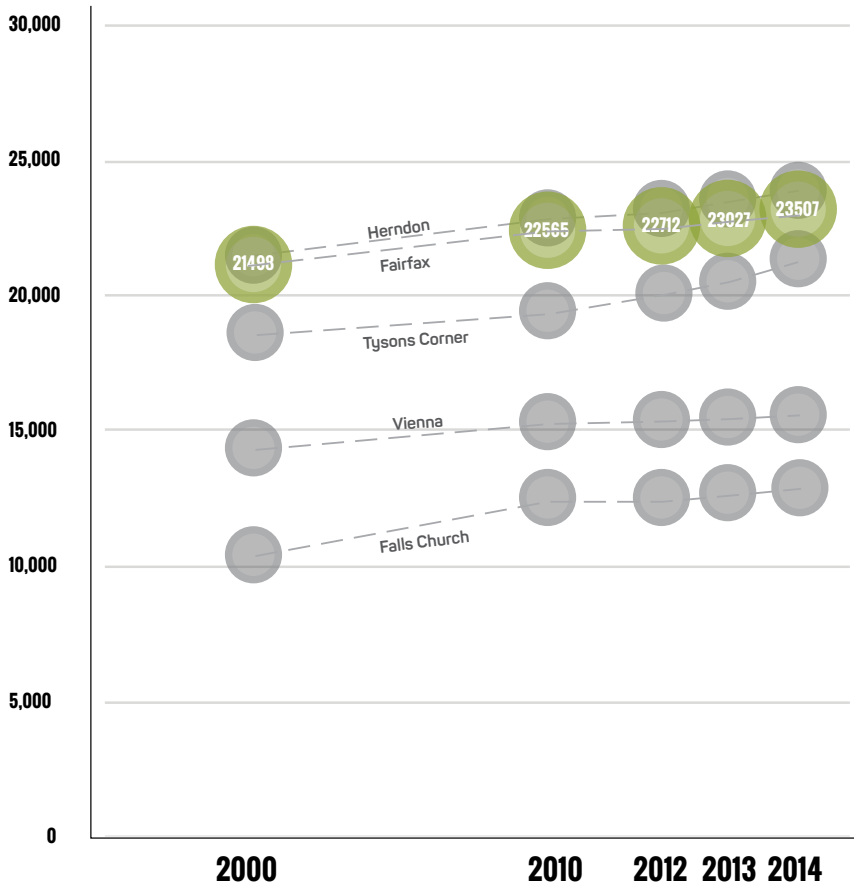
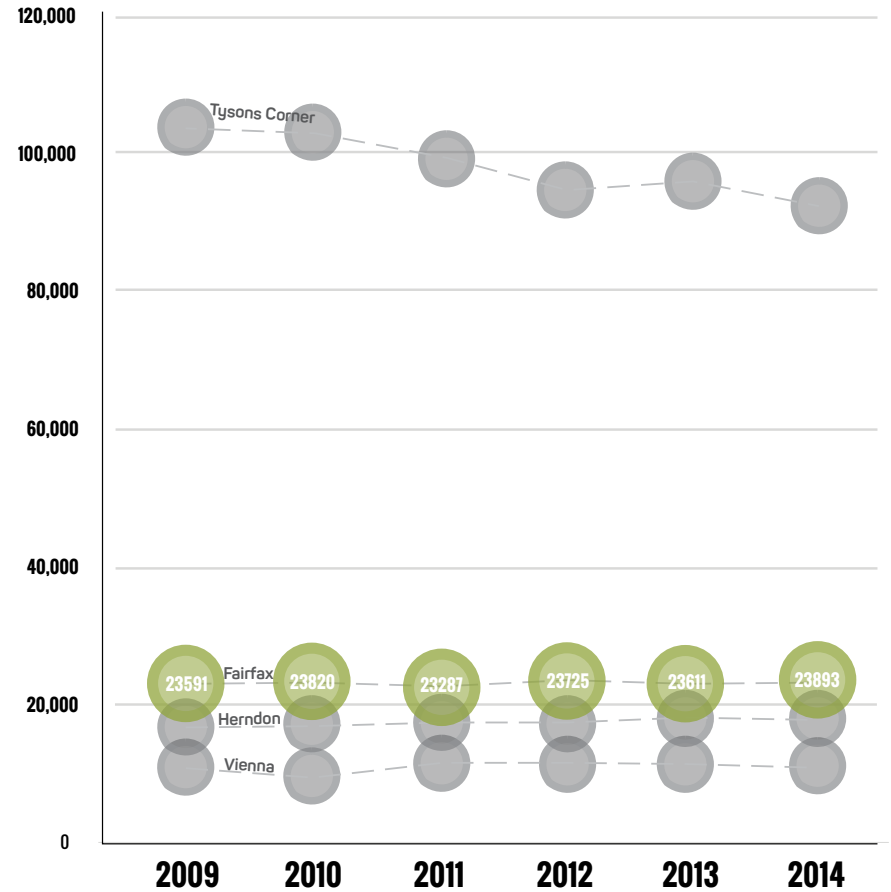


FIGURE 16 EMPLOYMENT GROWTH TRENDS - FAIRFAX CITY AND COMPARABLES

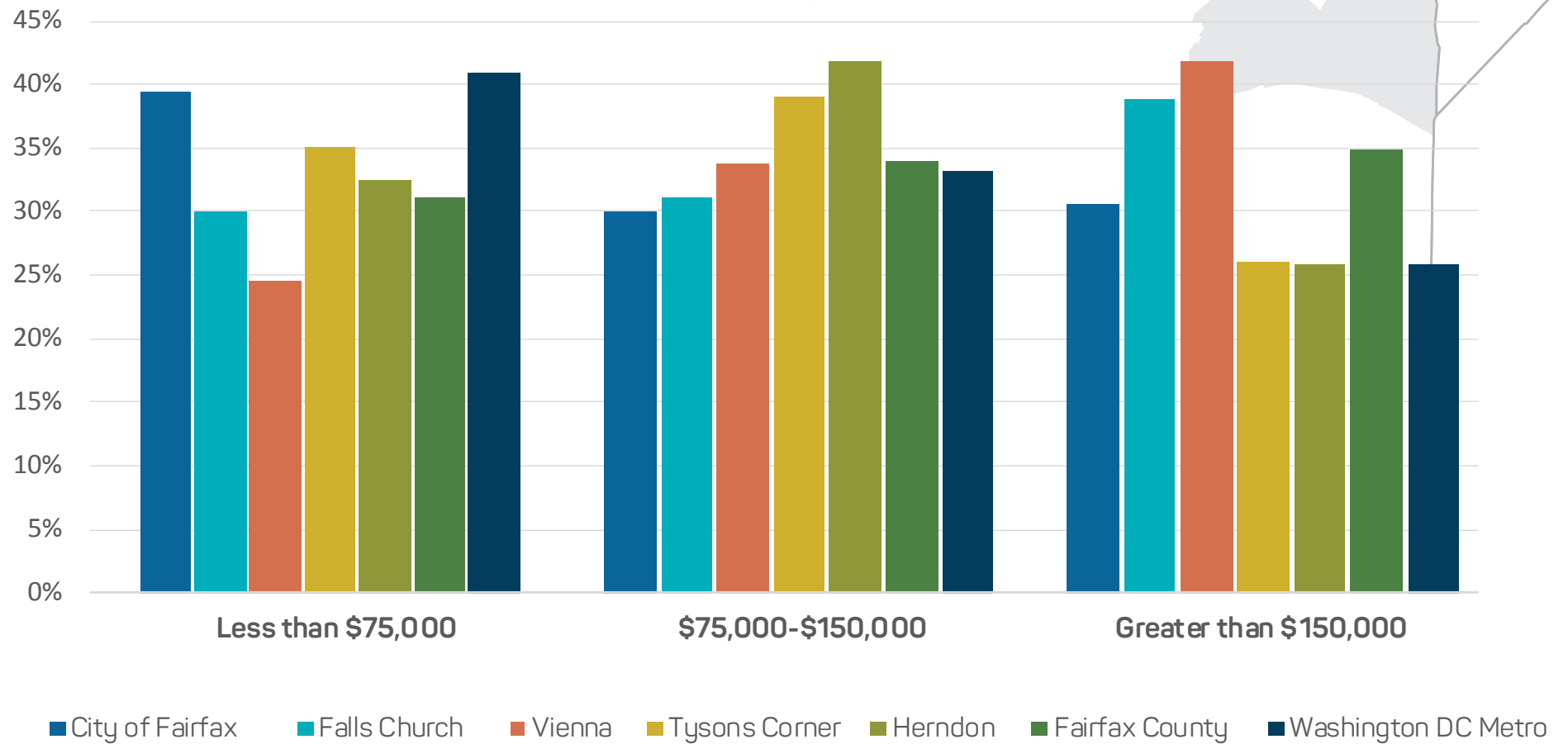


Since 2000, Fairfax City has maintained a steady increase in population, consistent with the growth trends of other localities in the region. Fairfax City realized a slight increase in overall employment located within city boundaries from 2009 to 2014. This is in contrast to some of the larger Fairfax County employment centers which have seen more fluctuation and even overall job loss over the same time period.

SOURCE: Census Data Set PI, 2000, 2010; American Community Survey Dataset B01003, 2011-2014

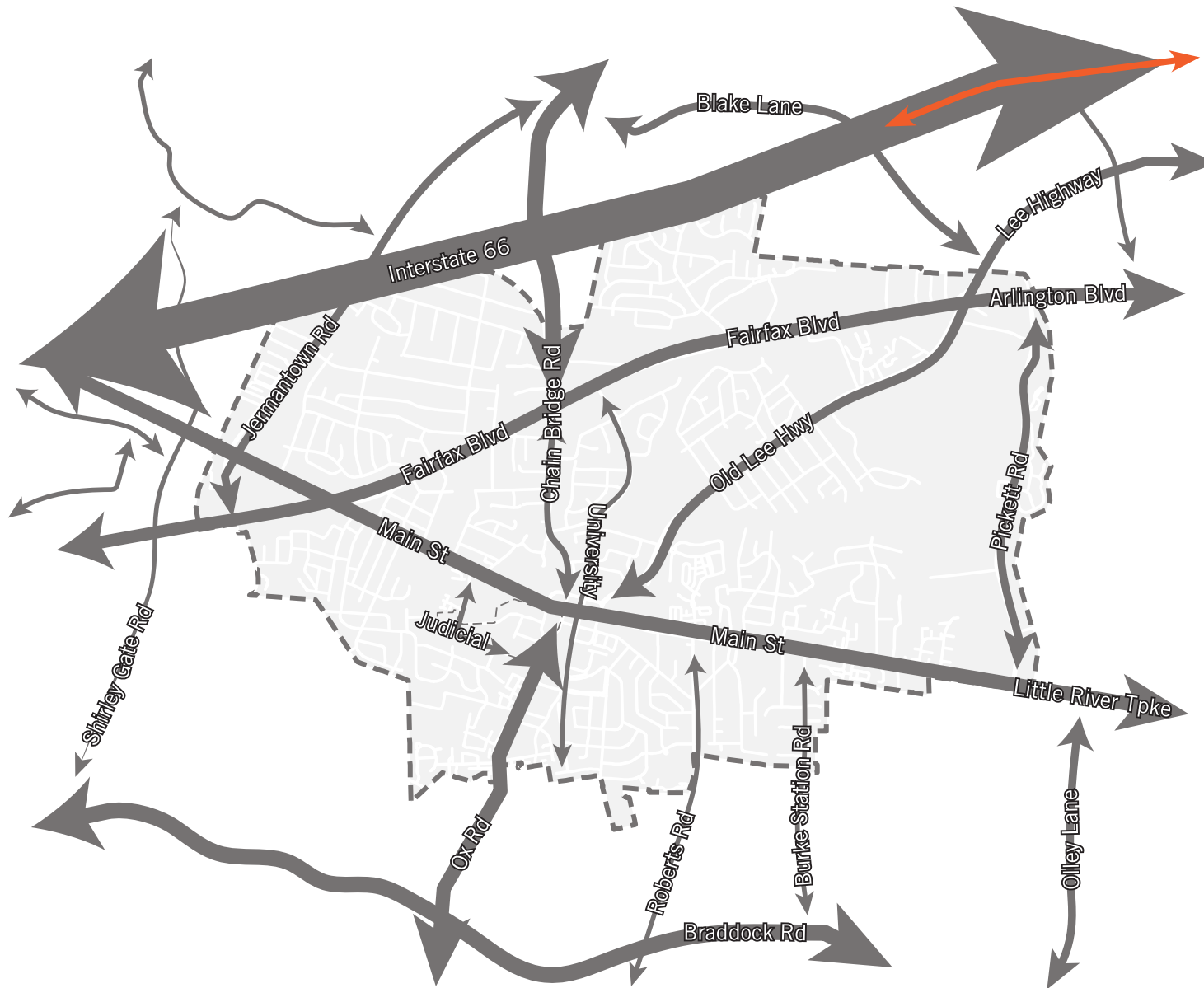
FIGURE 17 HOUSEHOLD INCOME DISTRIBUTION

Fairfax City generally exhibits a similar distribution of household income as Fairfax County and the Washington DC Metropolitan Area. Certain differences appear between cities within income brackets, most notably between Fairfax City and the other towns/cities in the high income bracket.



SOURCE: American Community Survey Dataset DP03, 2014

FIGURE 18 MAJOR TRAVEL FLOWS



Fairfax City is bounded by US Interstate 66 to the north, carrying significant travel flows in and out of the City. Major travel flows within Fairfax are concentrated along Fairfax Boulevard and Main Street. Both corridors primarily travel east west and intersect at the western edge of the city. Primary travel flows from north to south along Pickett Road, Old Lee Highway, and Chain Bridge Road.

Additional trips are generated in the vicinity of Fairfax City by the terminus of the Metro Orange Line.

SOURCE: Virginia Department of Transportation, 2014; Washington Metropolitan Area Transit Authority, 2015

TRANSPORTATION NETWORK

FIGURE 19 TOTAL VEHICULAR NETWORK

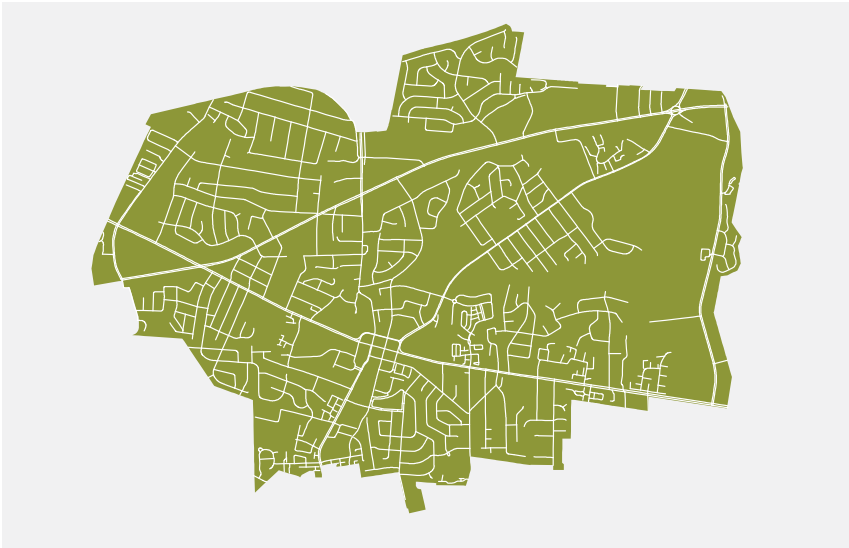
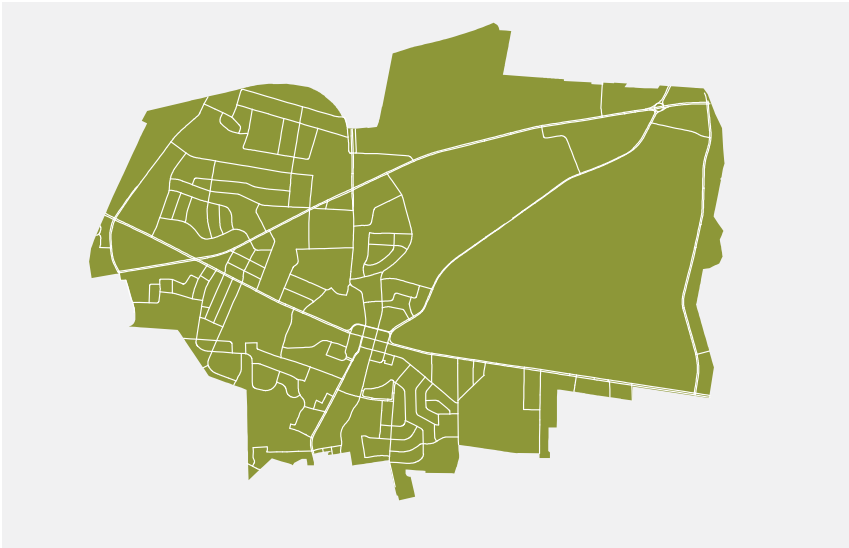


FIGURE 20 FUNCTIONAL VEHICULAR NETWORK



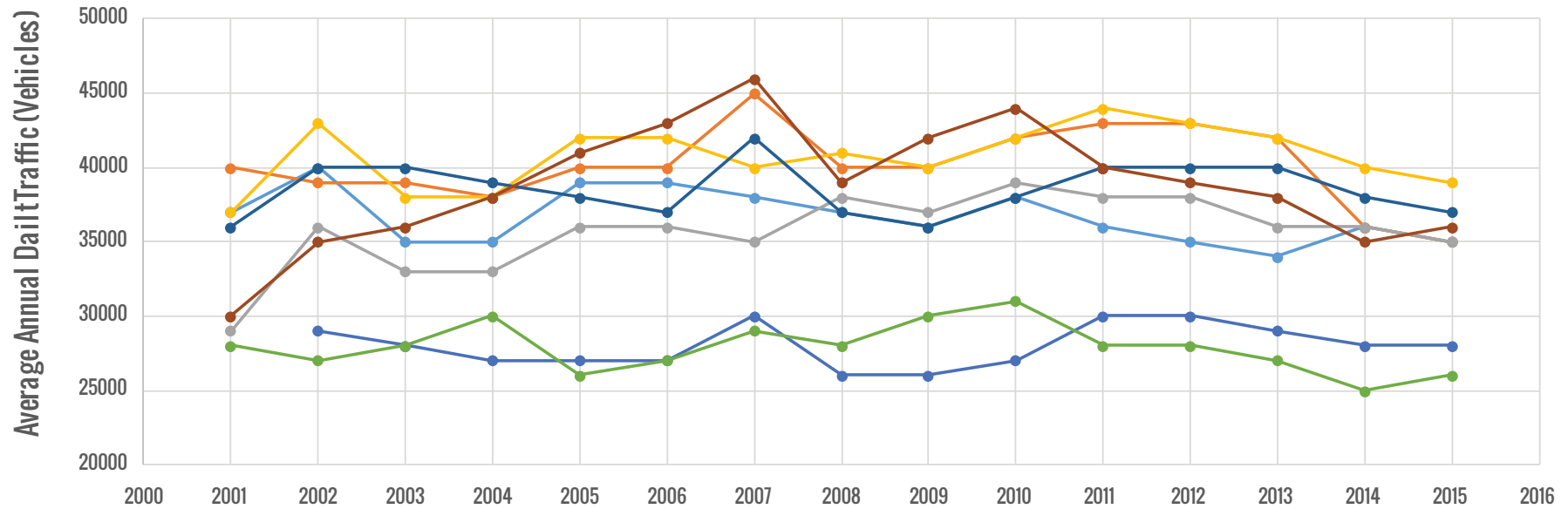
A comparison of the entire Fairfax City street grid to a functional grid, where all roads can be used to make connections to any other part of the city, paints a stark picture. The east side of the city almost entirely consists of neighborhoods isolated by physical barriers. The west side of the city is far more integrated with the city center and areas immediately northwest, southwest, and south of city boundaries. When the trail network and other non-motorized connections are introduced, the east side, as well as the city as a whole, sees much higher network connectivity.

FIGURE 21 FUNCTIONAL NON-MOTORIZED NETWORK

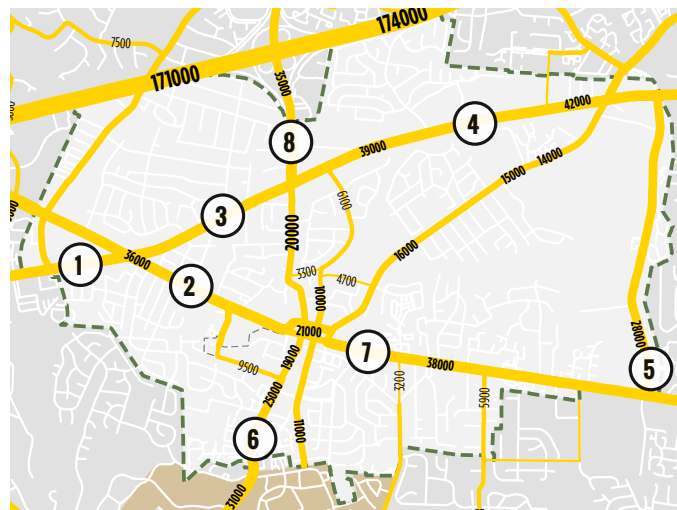


SOURCE: Fairfax City, 2016

FIGURE 22 ANNUAL TRAFFIC TRENDS



SOURCE: Virginia Department of Transportation 2001-2015



- (1) US 29 between Jermantown Road and US 50/Main Street
- (2) Main Street between US 29/50 and West Street
- (3) US 29/50 between 29/Lee Highway and Chain Bridge Road
- (4) US 29/50 between Plantation Parkway and Draper Drive
- (5) Pickett Road between Main Street and Colonial Avenue
- (6) Chain Bridge Road between City Line and Judicial Drive
- (7) Main Street between Old Lee Highway and Whitacre Road
- (8) Chain Bridge Road between US 29/50 and Interstate 66

Traffic on most arterials has remained relatively stable over the past 15 years, with some fluctuation from year to year.

ALTERNATIVE TRANSPORTATION MODES AND SAFETY

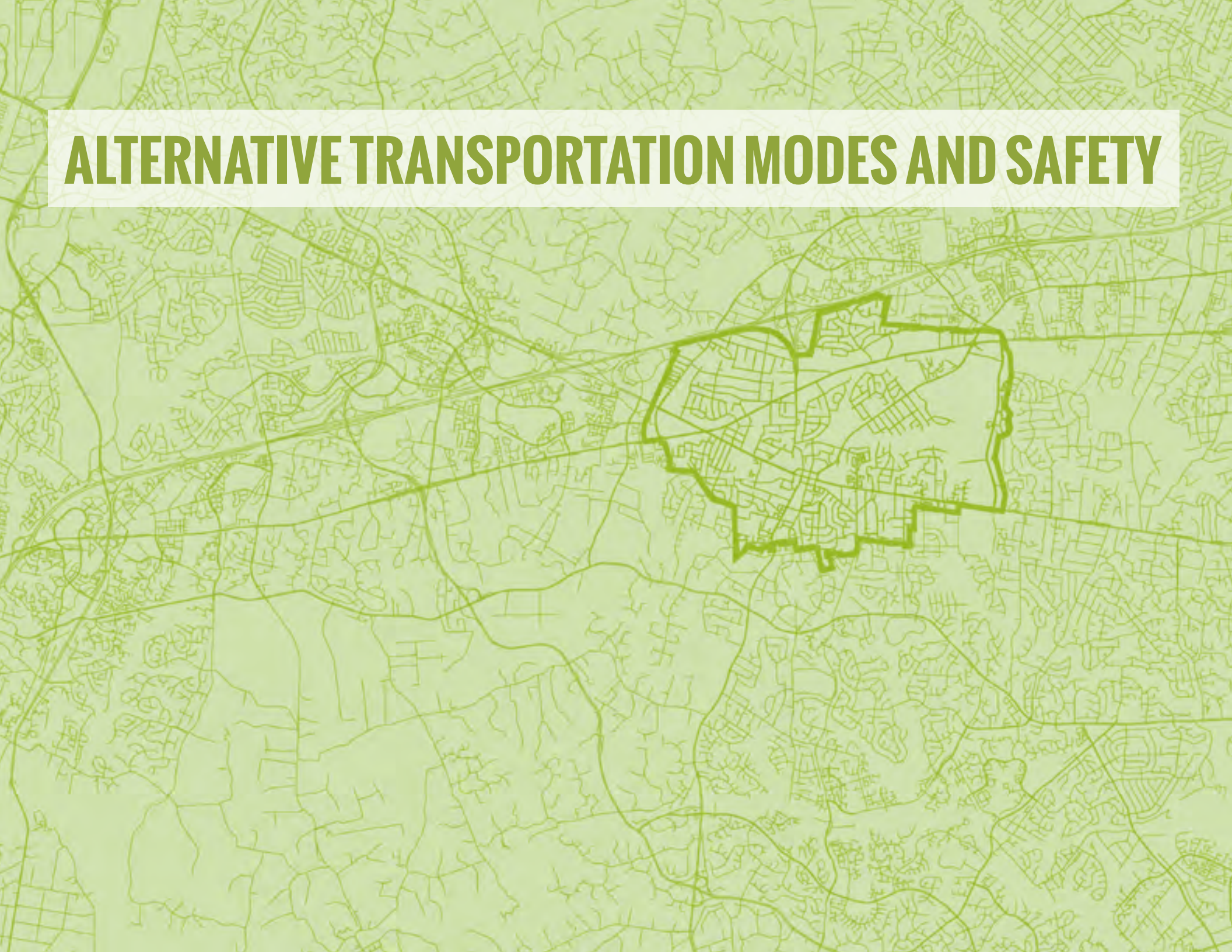
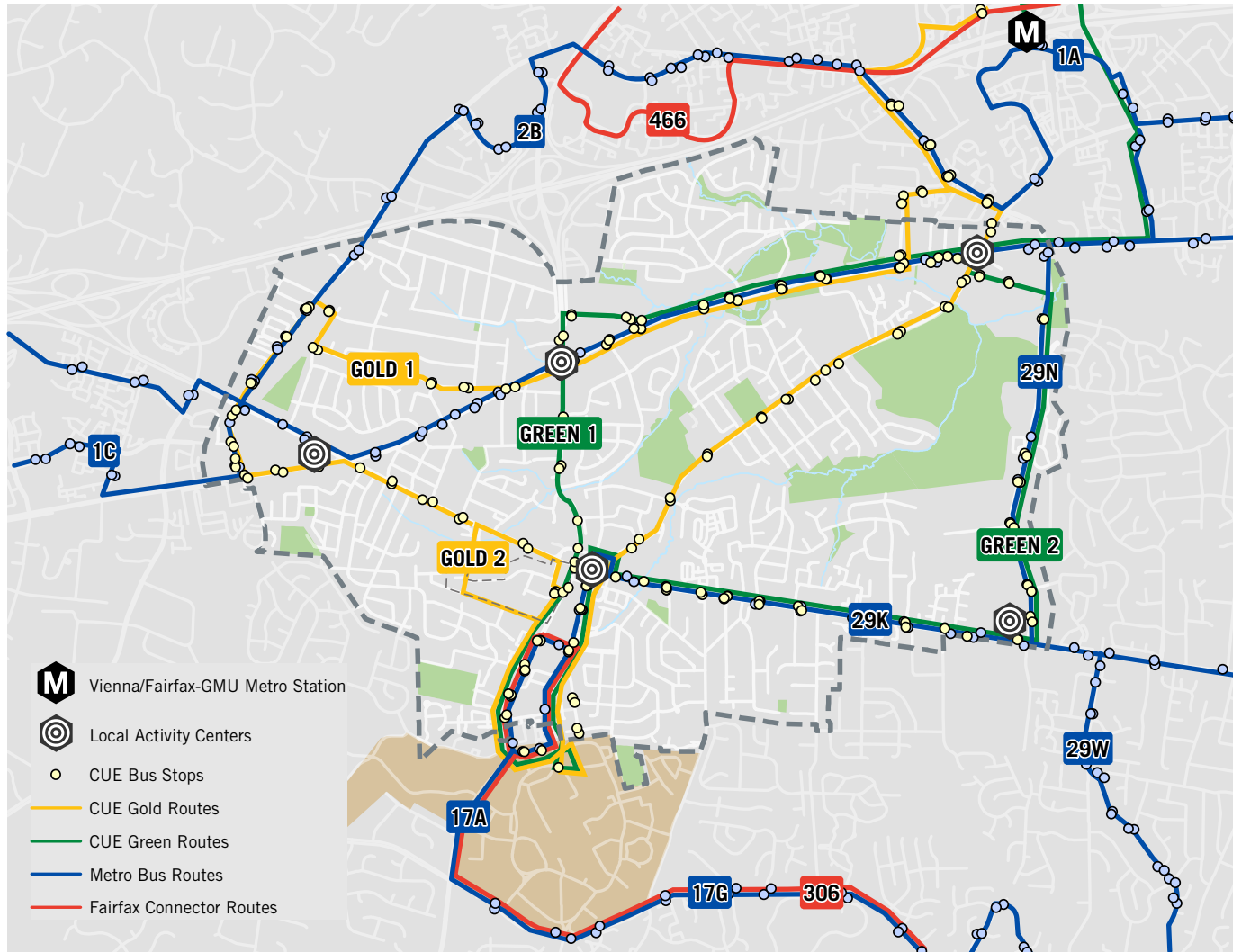


FIGURE 23 TRANSIT COVERAGE

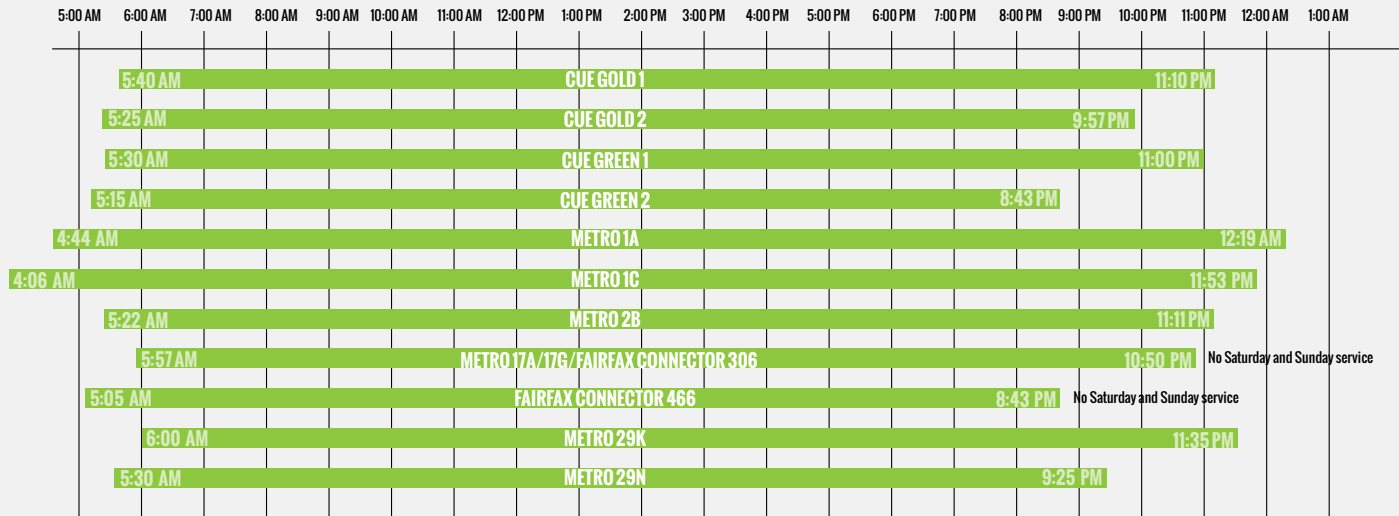


Fairfax City is crisscrossed by a mix of CUE, Metro, and Fairfax Connector bus service. Multiple routes serve each of the local activity centers, the Vienna/Fairfax Metro station, and George Mason University.

SOURCE: Washington Metropolitan Area Transit Authority, City-University Energysaver, Fairfax Connector, 2016

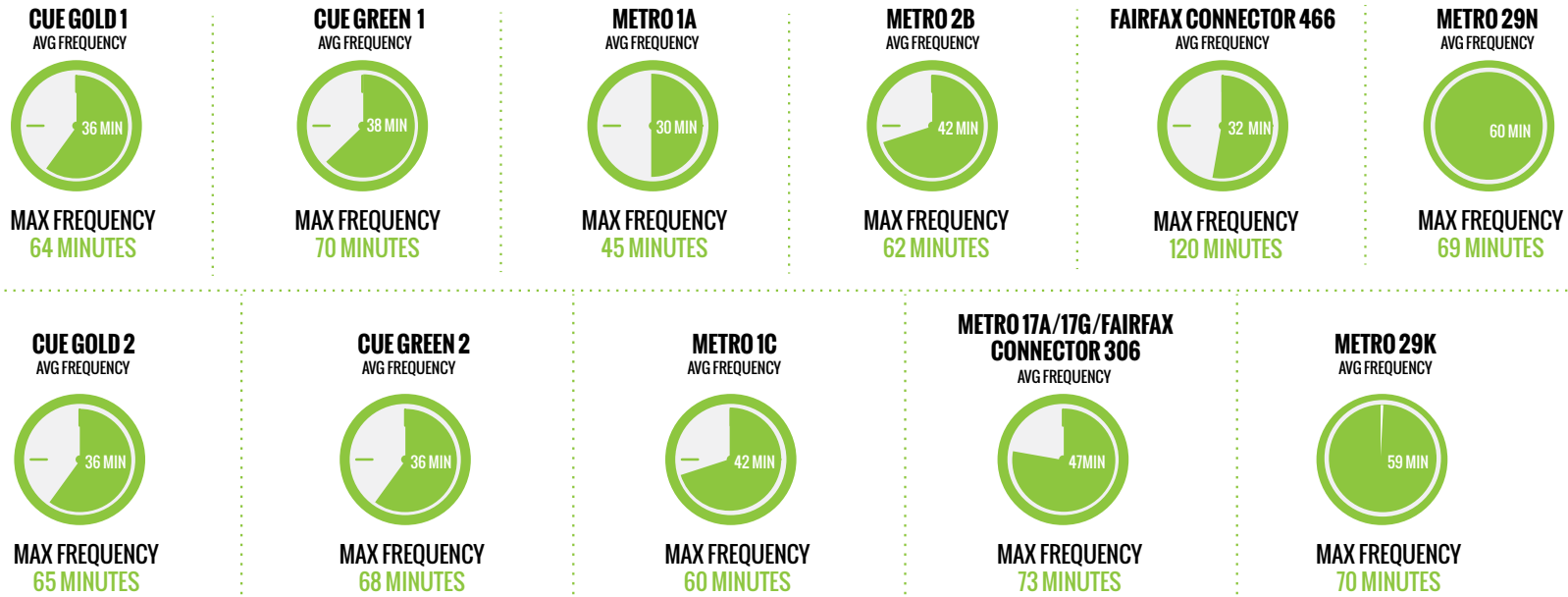
FIGURE 24 TRANSIT FREQUENCY AND SPAN

WEEKDAY START AND STOP TIMES



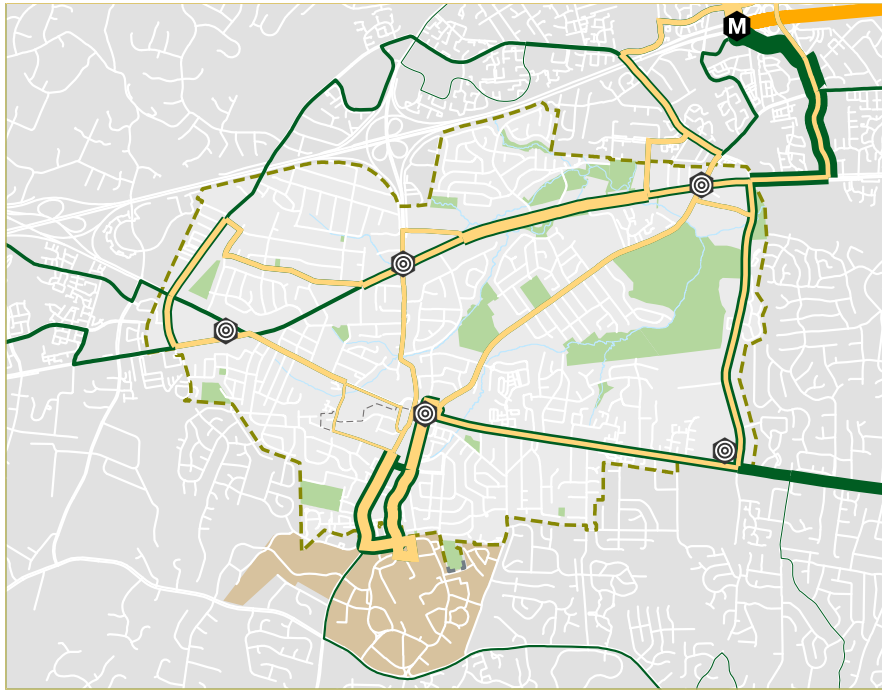
All routes run from early in the morning well into the evening on weekdays. There is Saturday and Sunday coverage on all but a pair of route groups.

AVERAGE TIME BETWEEN BUSES



SOURCE: Washington Metropolitan Area Transit Authority, City-University Energysaver, Fairfax Connector, 2016

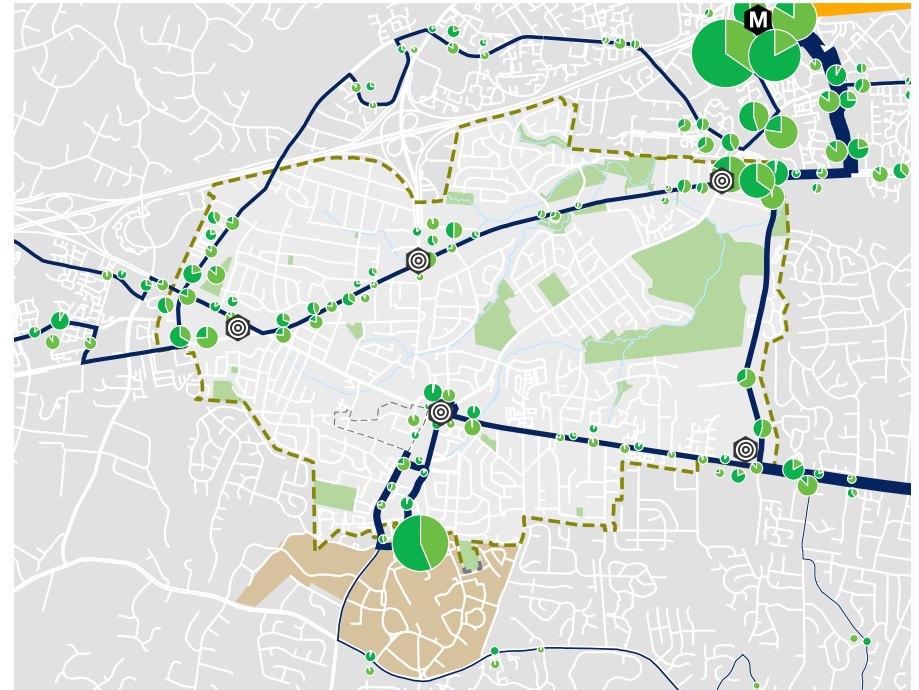
FIGURE 25 BUS RIDERSHIP - CUE, TOTAL SERVICE



SOURCE: Metropolitan Washington Council of Governments, 2014

Metro bus stop activity and overall bus corridor activity shows that buses are overwhelmingly used to access the Vienna/Fairfax-GMU Metro station. George Mason University and the Fairfax Circle local activity center are secondary destinations routinely accessed by bus. CUE constitutes a large portion of ridership on transit corridors within Fairfax City.

FIGURE 26 BUS RIDERSHIP + BOARDINGS/ALIGHTINGS - WMATA



SOURCE: Washington Metropolitan Area Transit Authority, 2015

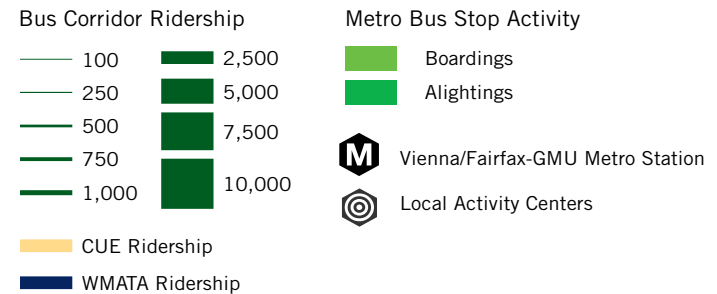
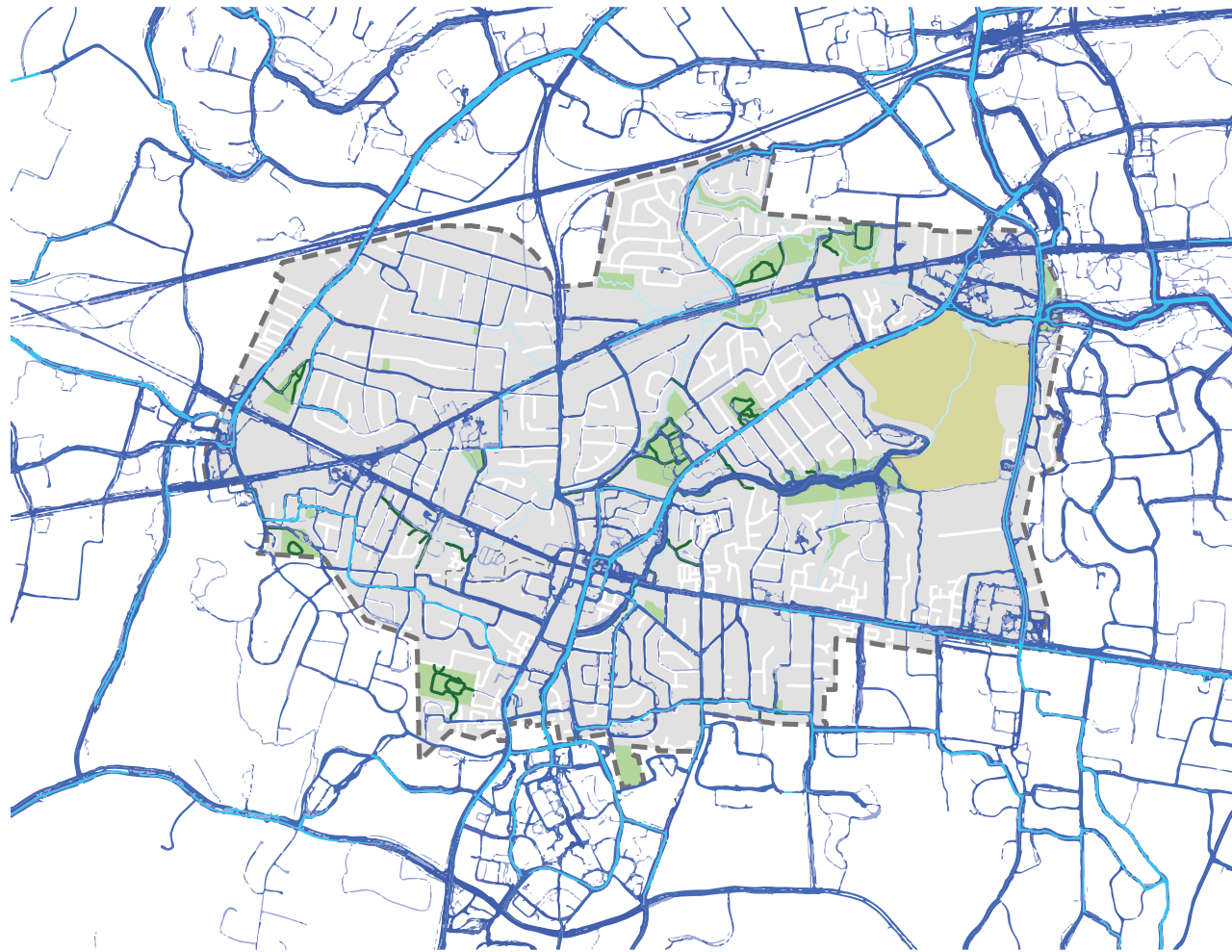


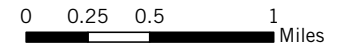
FIGURE 27 BICYCLE ACTIVITY



Other than the city's impressive off-street trail network, dedicated bicycle facilities are limited to a shared-use path along George Mason Boulevard, bicycle lanes on Breckinridge Drive, and a recently installed bike lane on Layton Hill Drive. As a result, bicycle activity is drawn to major vehicular corridors and limits riders to those with high bicycle stress tolerance.

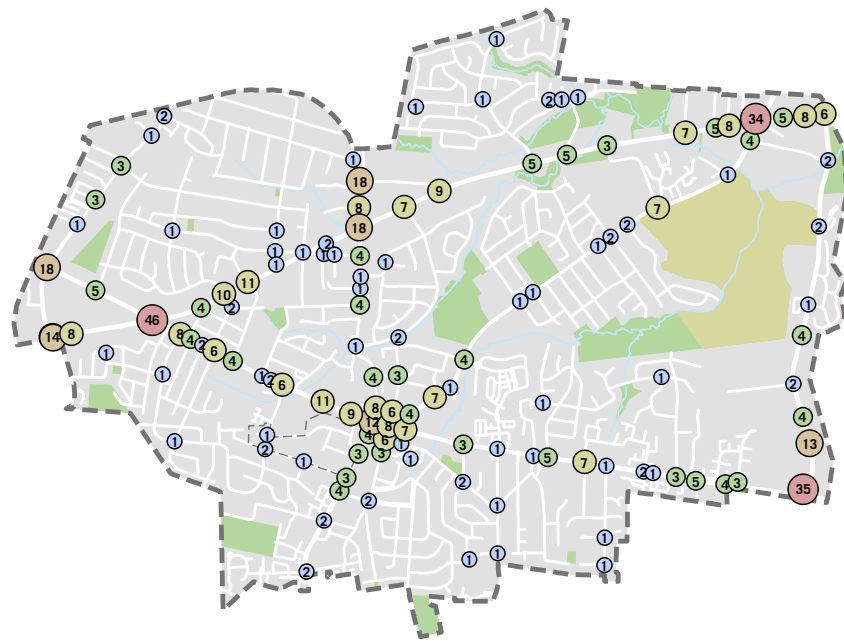
LEGEND

- Bicycle Facilities
- Off-Street Trails
- Low Activity
- High Activity



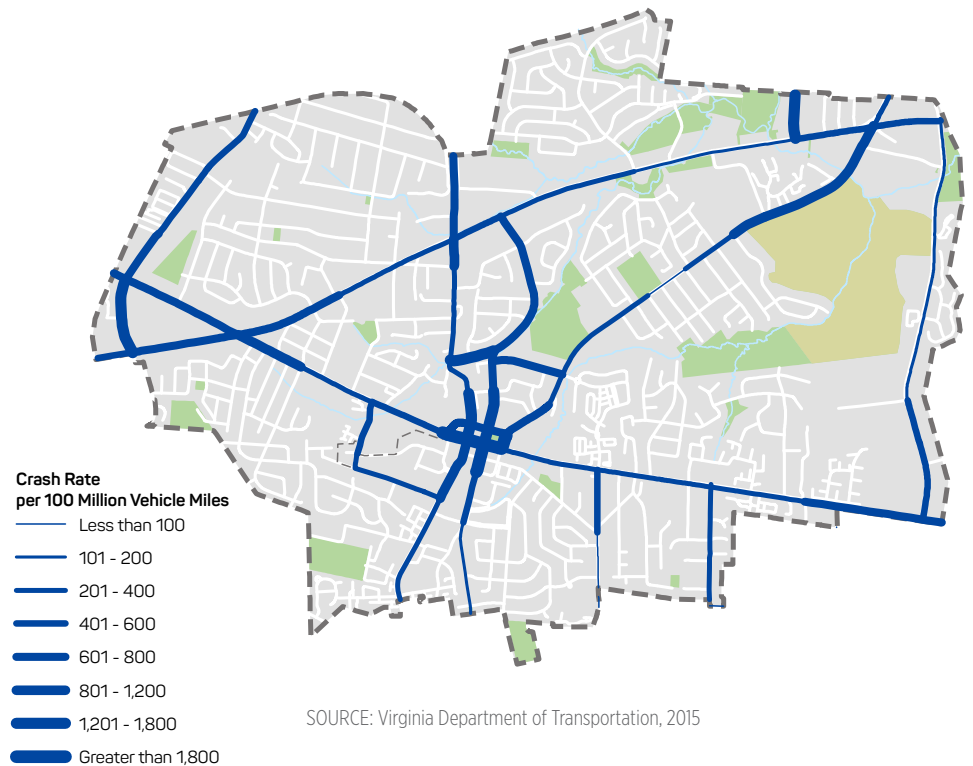
SOURCE: Quality Counts, 2012; Fairfax City, 2016

FIGURE 28 2015 VEHICLE CRASHES BY LOCATION



SOURCE: Fairfax City, 2015

FIGURE 29 2015 VEHICLE CRASH RATES



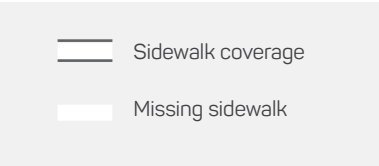
SOURCE: Virginia Department of Transportation, 2015

Vehicle collisions in Fairfax City during 2015 were clustered around local activity centers. Overall crashes are on the rise since 2011 when 752 incidents were reported. By 2014 that number had risen to 892 before retreating somewhat in 2015 to 837.

FIGURE 30 SIDEWALK NETWORK

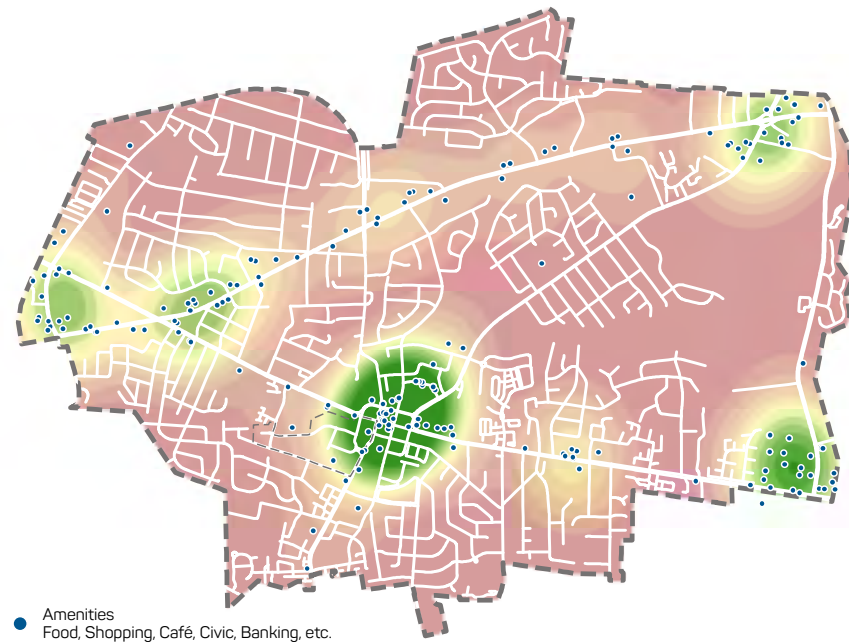


Within Fairfax City many areas have nearly complete sidewalk coverage, including central, northern, southern, and southwestern neighborhoods. Significant gaps, however, are observed in the northwest and southeast portions of the city.



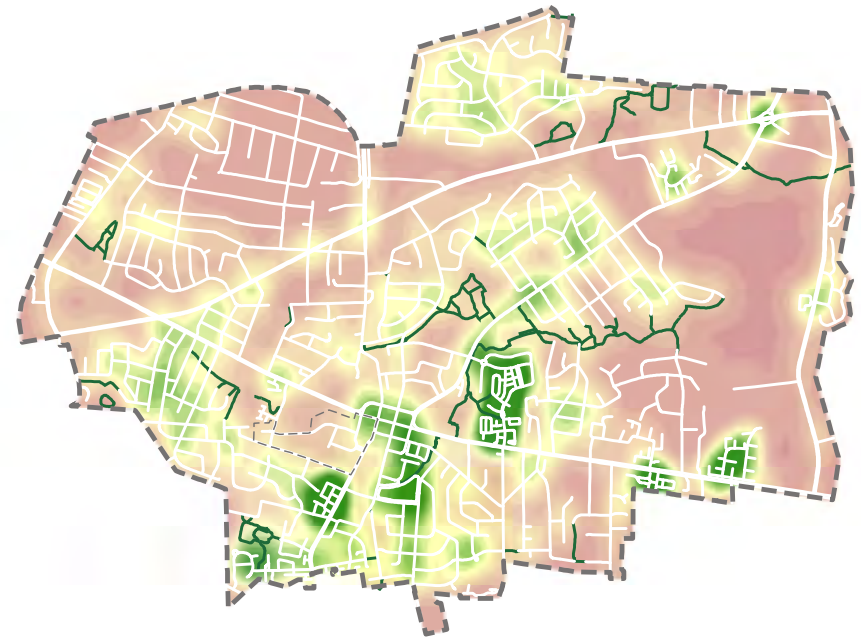
SOURCE: Fairfax City, 2016

FIGURE 31 COMMUNITY AMENITY CONCENTRATION



SOURCE: Google Earth, 2016

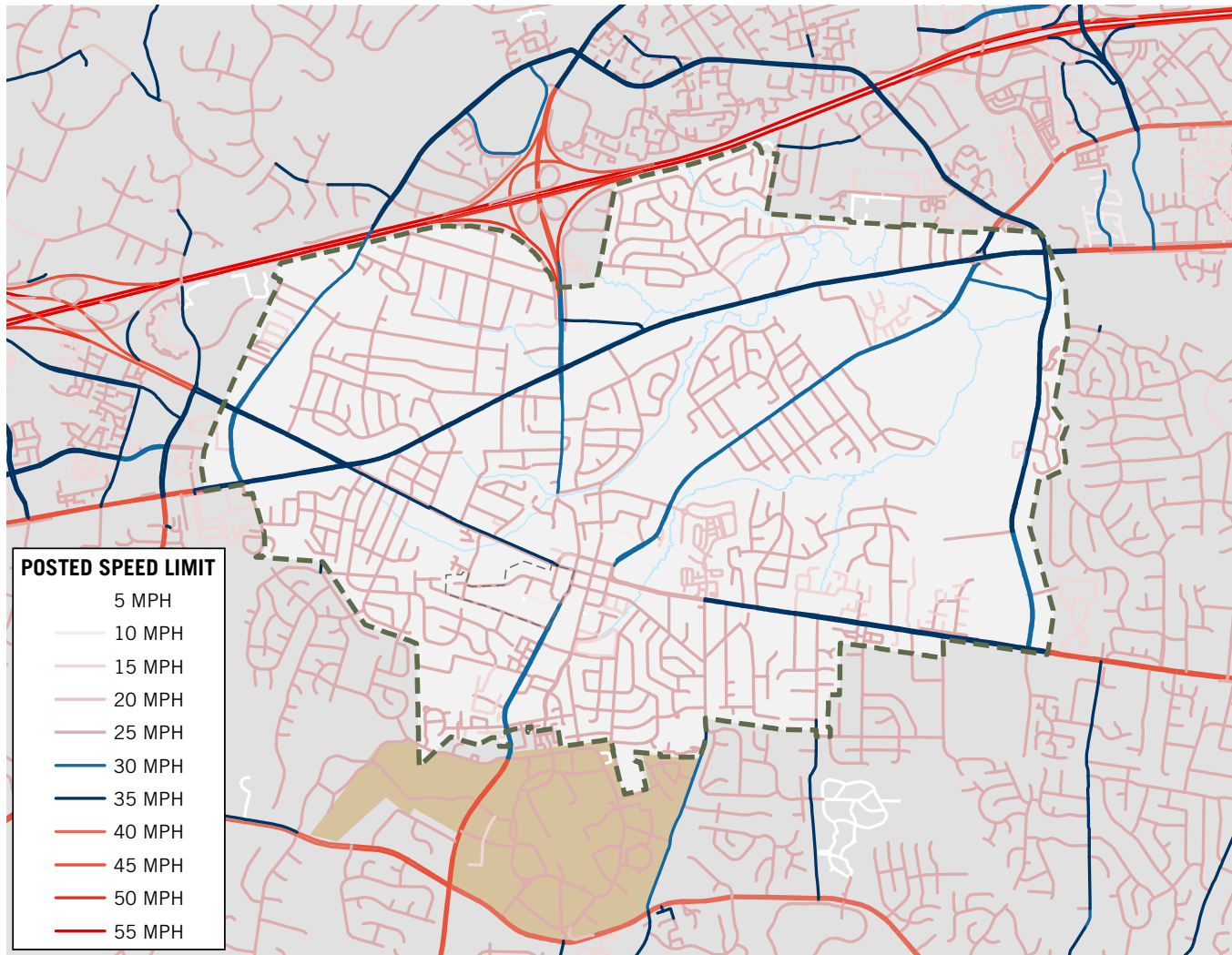
FIGURE 32 WALKABLE INFRASTRUCTURE CONCENTRATION



SOURCE: Fairfax City, 2016

Portions of Fairfax City could have excellent walkability based on proximity to amenities alone, however a mismatch between the location of those amenities/attractions (including restaurants, cafés, bars, both small and large format retail, pharmacies, banks, government offices, post offices, schools, and museums) and walkable infrastructure features (sidewalk coverage, high intersection density) reduces the overall attractiveness of walking in the city. While walkable areas are dispersed throughout the city, the Old Town local activity center uniquely combines a high destination count with a high concentration of walkable infrastructure. The Old Town infrastructure does come with some limitations however, sidewalks are narrow and lack a protective buffer or planting strip between the walkway and the curb.

FIGURE 33 POSTED SPEED LIMITS



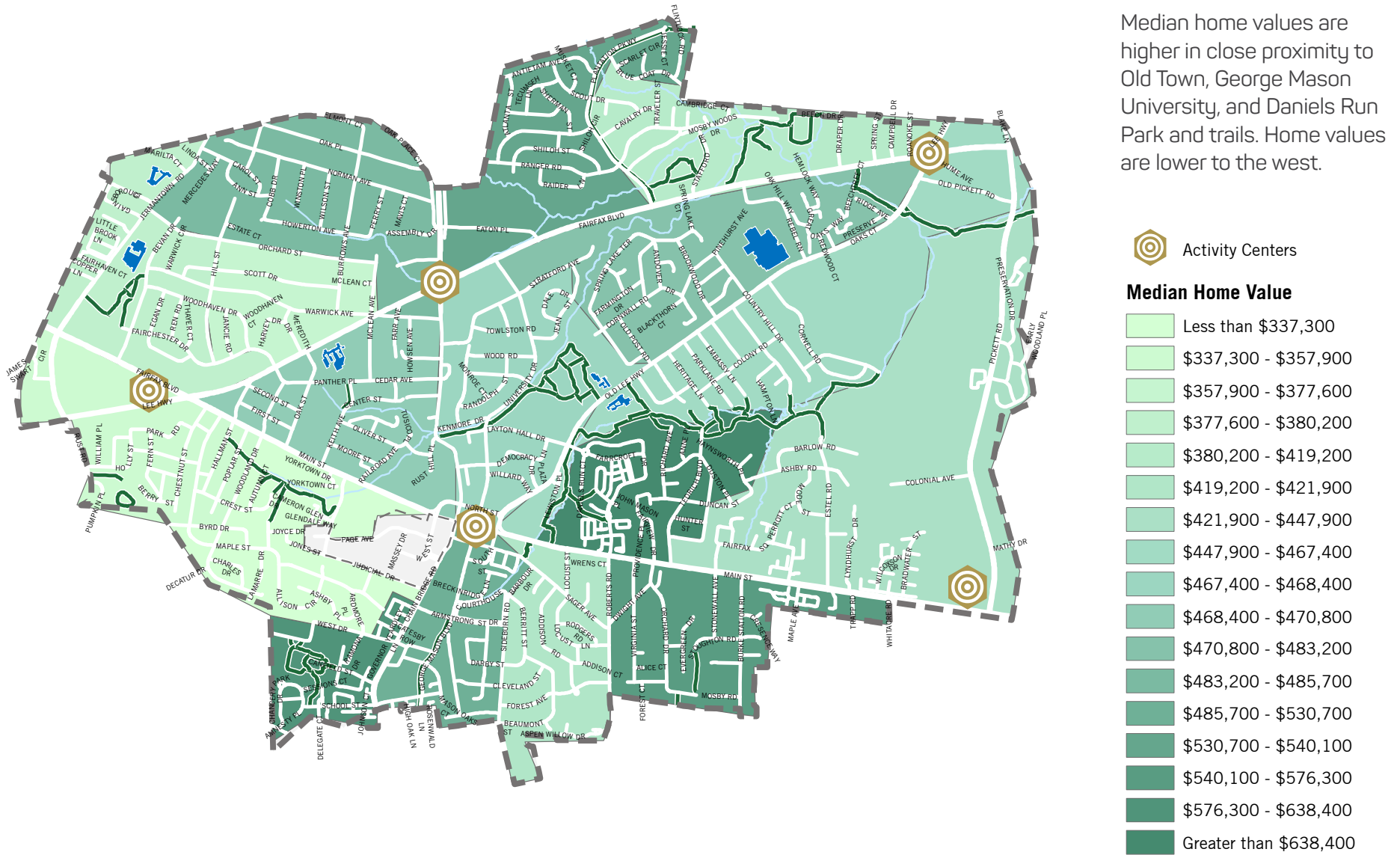
The majority of streets in Fairfax City have a posted speed limit of 25 MPH. Certain arterials such as Old Lee Highway, Chain Bridge Road, and Jermantown Road permit 30 mile per hour traffic while only Fairfax Boulevard, Pickett Road, and portions of Main Street are 35 MPH zones.

SOURCE: Fairfax County, 2016



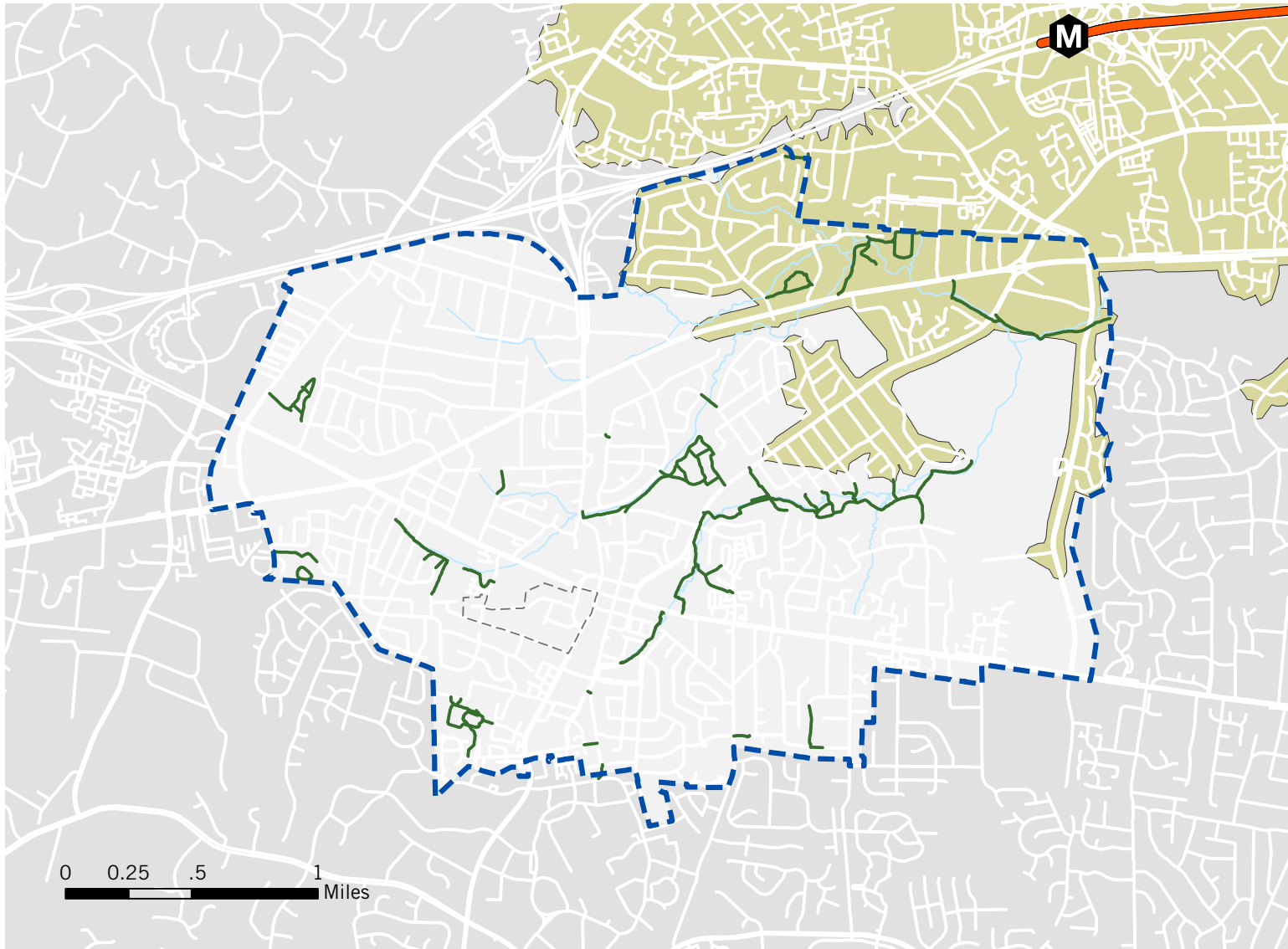
QUALITATIVE FACTORS

FIGURE 34 LOCATION PREFERENCE



SOURCE: American Community Survey Dataset B25077, 2014

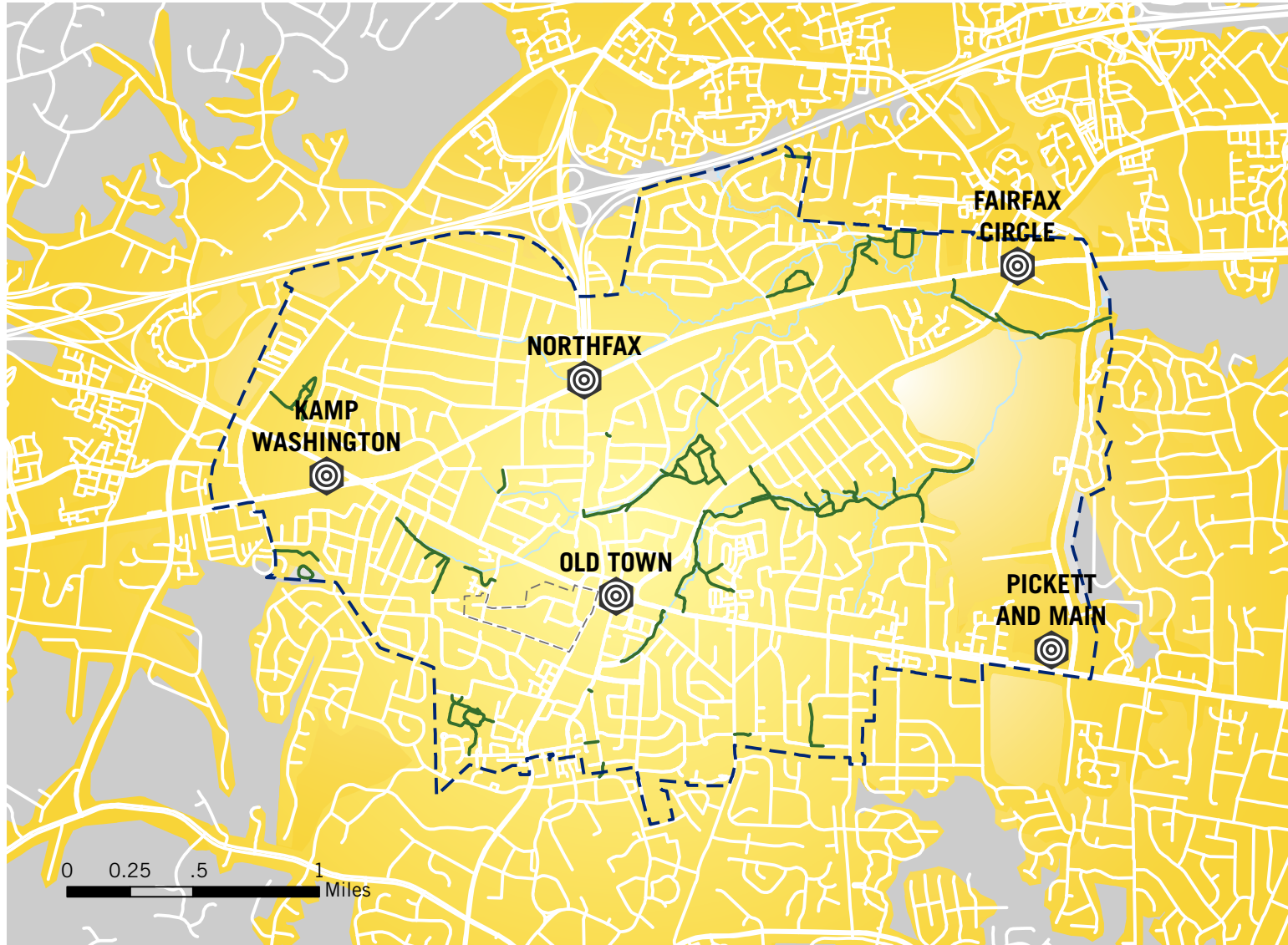
FIGURE 35 METRO STATION 15 MINUTE BIKESHED



SOURCE: Census Dataset HI, 2010

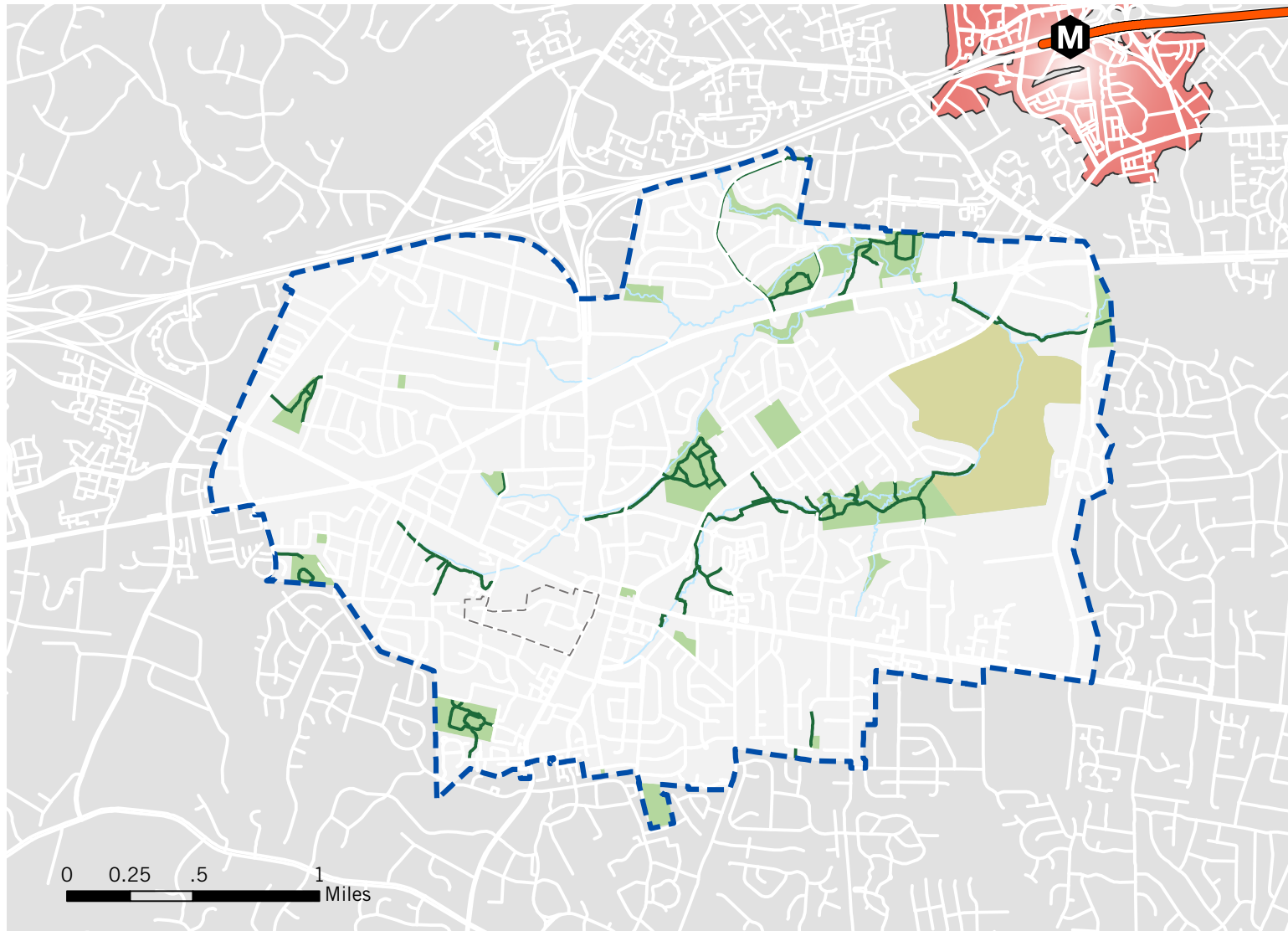
Convenient bicycle access to the Vienna/Fairfax-GMU Metro station is limited to few northeast neighborhoods due to a combination of distance and the surrounding road network configuration. This area accounts for only 11% of housing units in Fairfax City.

FIGURE 36 ACTIVITY CENTERS 15 MINUTE BIKESHEDS



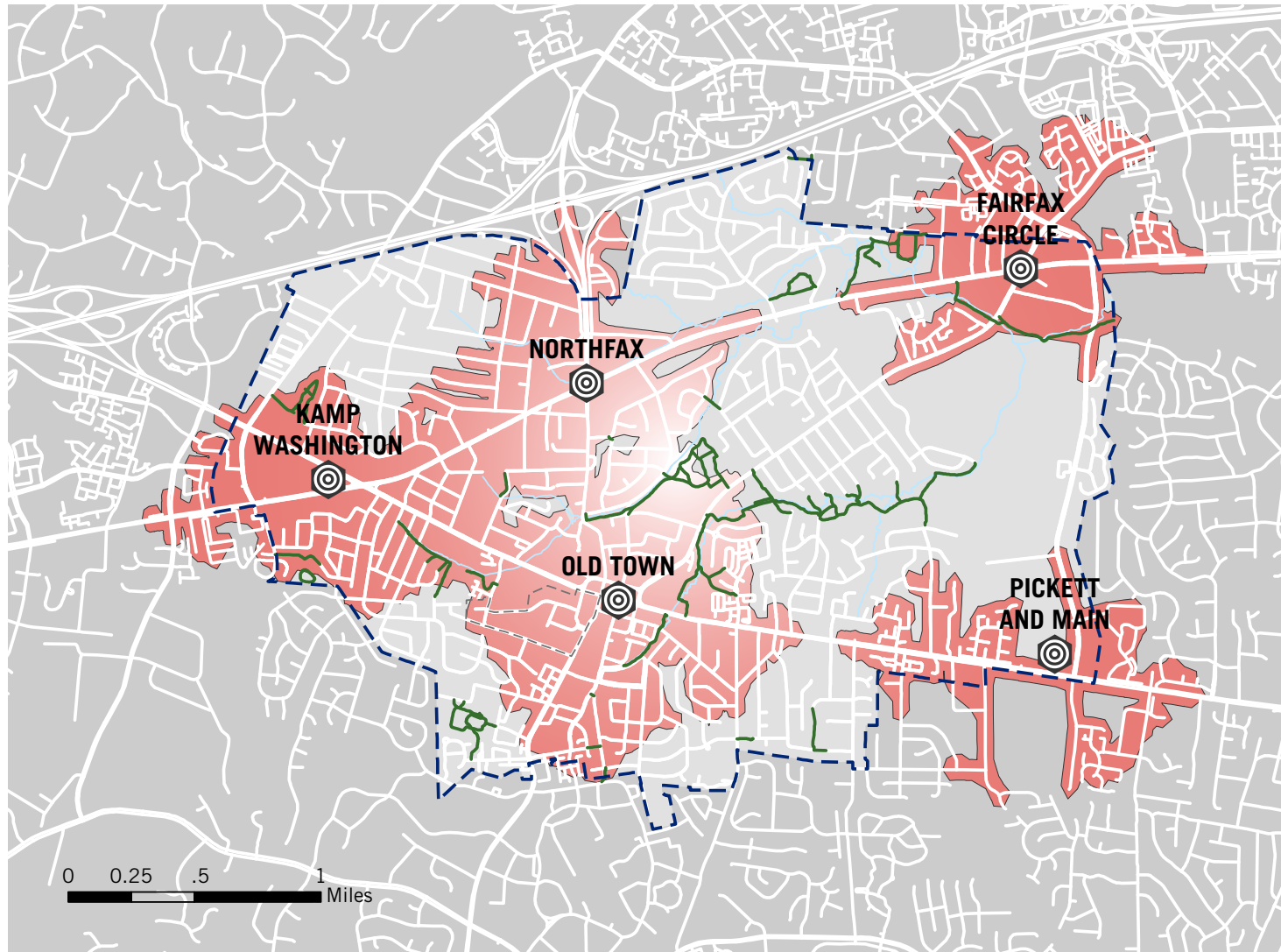
Each of the five local activity centers has good connectivity along the street network to the population of Fairfax City. Every resident of the city is within a 15-minute bike ride of at least one, and in many cases several, local activity centers.

FIGURE 37 METRO STATION 15 MINUTE WALKSHED



The Vienna/Fairfax-GMU Metro station is not generally within a convenient walking distance (one-half mile) of any residence within Fairfax City.

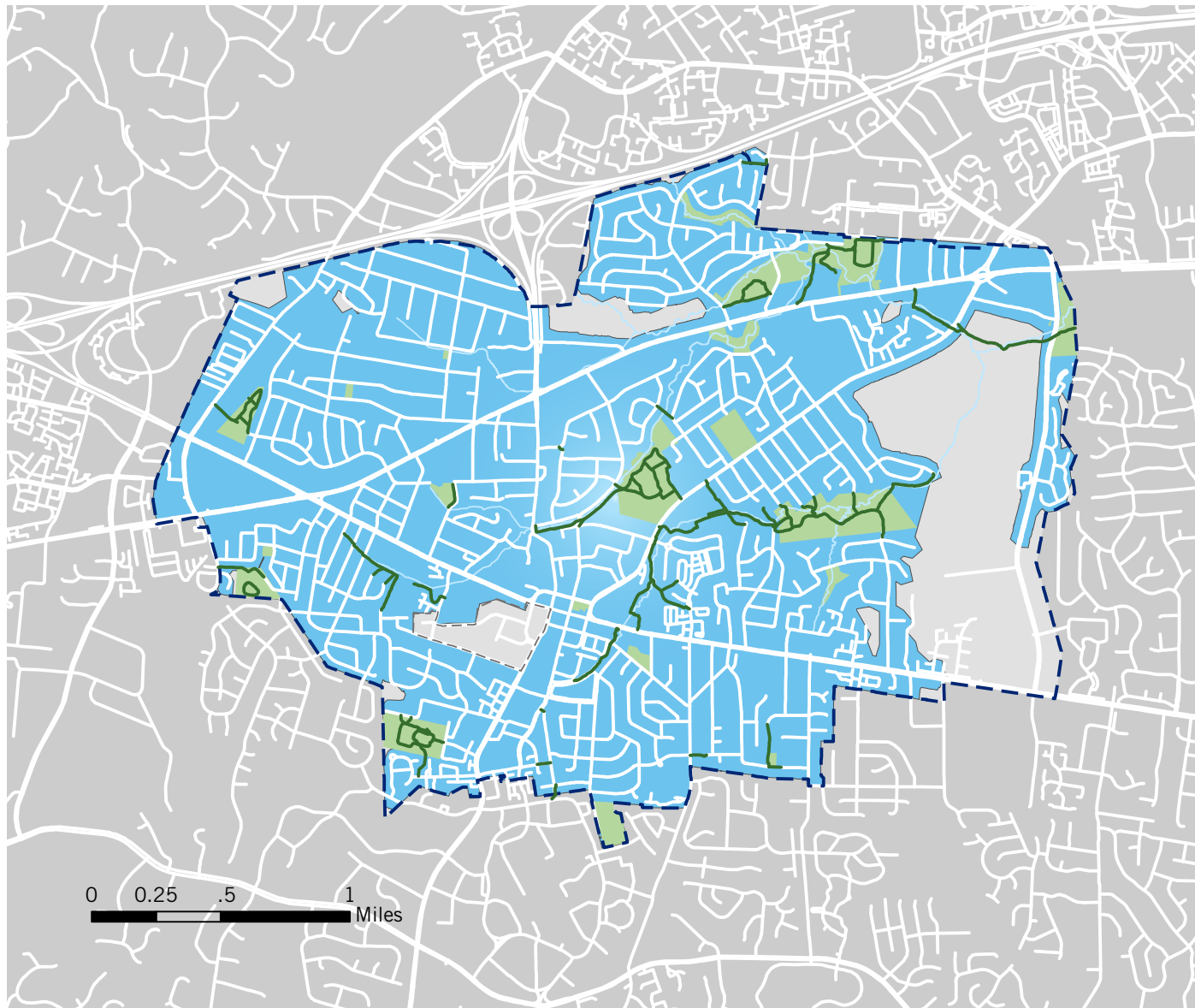
FIGURE 38 ACTIVITY CENTERS 15 MINUTE WALKSHEDS



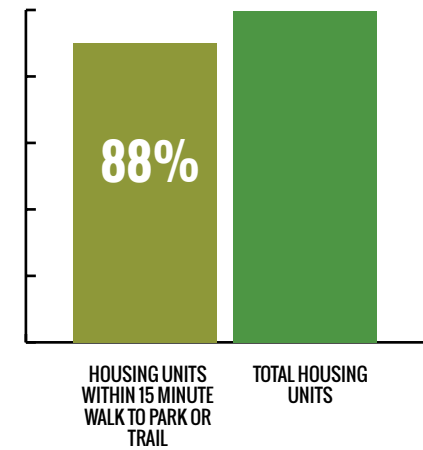
SOURCE: Census Dataset H1, 2010

While many neighborhoods are within a convenient 15-minute walk of a local activity center (approximately one-half mile), many neighborhoods are without easy access due to both distance and a disconnected street network. Less than half of housing units in Fairfax City fall within this 15 minute walkshed.

FIGURE 39 ACCESS TO NATURE



Fairfax City boasts a high percentage of housing units within 15 minutes by foot of either a park or trail. Almost 90% of households are able to easily take advantage of these public amenities.



SOURCE: Census Dataset HI, 2010