

APPENDIX B: MAP ANALYSIS AND STATION AREA DEMOGRAPHIC TRENDS

This appendix provides further analysis of the 20 regions we studied for this report. Each map produced for each region has an inset that tells a particular story, and we discuss how they tie into the bigger national picture. The physical maps themselves are located in Appendix D for reference. The demographic summary refers to the demographic chart in Appendix D, which shows demographics for the region, half mile transit zone (TZ), and quarter mile transit zone.

ATLANTA, GEORGIA

Atlanta is known for its roads, congestion, and sprawling land use patterns; however, the city has done a good job at keeping federally assisted housing units within a half or quarter mile of quality transit (53 percent of the regions assisted units are near transit). But the octopus-like transit network is only useful if you are going to the region's core. Many of the outlying areas still depend on automobiles for movement, and unless located in an older town core, much of the street network was designed around the automobile instead of walking, biking, and transit. From the Atlanta Population Served map, we can see that many of the units left out are actually senior citizen units. Specifically, there is a cluster in the far southern end of the region that is far away from destinations and services.

There is planning under way to make the core even more mobile as transit expansion planning seeks to loop the city with a transit and development project called the Beltline. Using old freight rights of way, this beltline would ring the downtown of the city, allowing people to access more destinations regionally from the outskirts of the city. This would also help the existing population within a half mile of MARTA rail, which is predominantly African American, has lower incomes across the board, especially the 61 percent of the population over 65 who make less than \$25,000 per year. There are also significantly smaller households.

The inset on both maps shows Peachtree Street. This is one of the most traveled corridors in the region and has a high concentration of jobs and destinations. It is served well by MARTA's heavy rail system; however, frequent bus links are limited to overlapping lines and longer headways. The end of the 99 and 27 bus lines signifies where these lines split off and go in separate directions with 20-minute headways or greater in the off-peak hours. If you need to go into core Atlanta, that would be great; however, if you have to go the opposite way, it could possibly be a bit of a wait. This system serves people well who are interested in heading to downtown Atlanta but is lacking for riders seeking to go to and from other destinations.

Demographic Summary Highlights (MARTA Rail Stations)

- Average household size drops closer to the station
- Below age 17 drops as you get closer to the station
- Percentage making less than \$25K increases
- African American population increases

BALTIMORE, MARYLAND

The Baltimore maps show that this region has fairly good transit coverage with frequent service. Seventy-four percent of its assisted units are near frequent transit, and the region is fairly well connected to its job centers by more rapid transit. The inset shows connections by the subway, light rail, and commuter rail as well as a concentration of units to frequent bus lines. Baltimore, however, has an issue that older transit-rich cities have in that many of its assisted housing units are expiring. Fifty-one percent of the units near transit will expire by 2014; as more rapid transit is expanded in the region, it will be important to preserve these units and expand on existing resources.

Within a half mile of existing rail stations, 45 percent of the residents and 60 percent of citizens over 65 make less than \$25,000 a year. Within a quarter mile of existing rail stations, renters make up 65 percent of the population. In recent years, demand for living near transit has gone up, and living in cities has become more desirable, which could possibly create problems for rental units near transit that are currently affordable.

Demographic Summary Highlights (Baltimore Rail Stations)

- Average household size drops closer to the station
- Percentage making under \$25K increases
- African American population doubles to 60 percent

BOSTON, MASSACHUSETTS

The Boston region is another area with an expansive transit network that was saved from demolition with a very rich connection to federally assisted housing units. As shown in the inset map, the recent construction of the Silver Line bus rapid transit has connected residents of many of the assisted units to the core better than before it was constructed. The corridor over which it runs was previously the Orange Line elevated rapid transit, which was torn down in 1987. Previously, it was a primarily African American neighborhood, and at the time of the tear down, many were worried that the line demolition would create gentrification problems because of the reduction of noise and visual pollution of the elevated system.

Currently, Boston is a reverse of other cities where more residents are between the ages of 18 and 30. Incomes are slightly lower than the rest of the region, but because the transit network is more extensive, it provides the ability for greater diversity near transit. The proportion of citizens over 65 drops off by 2 percent within a quarter mile, which is contrary to other regions where percentages rise or stay flat.

Density in the corridor allows more people to live closer to greater destinations, and it is of the utmost importance that the housing in this corridor not be allowed to atrophy. The region's core has good transportation options and housing is clustered around it. The Boston region has 67 percent of all assisted units near frequent transit.

Demographic Summary Highlights (Boston Rail and Silver Line Stations)

- Average household size drops closer to the station
- 18–29 age group increases dramatically
- 55+ age group declines

- Over-65 income stays stable
- Hispanic population increases

CHARLOTTE, NORTH CAROLINA

Although Charlotte has recently beefed up its transit network with bus expansion and light rail, there is still a lack of regional frequent service coverage, which is shown in the map. Charlotte is currently embarking on a multibillion dollar rapid transit expansion that would allow people all over the region to have a faster transit trip between major destinations; however, getting to the core corridors from between the spokes is more difficult, and a service increase would help.

Charlotte is also one of the regions that is lowest when comparing the percentage of total units within a half or quarter mile of frequent transit to other cities, just 36 percent. In addition, 71 percent of those units are below fair market rent, suggesting that many of these units are extremely low income. As shown in the inset, a number of the units outside of the frequent transit core are senior citizen units north of two high-capacity corridors. Although there is a transit line that connects them, it does not come often enough for ridership to be automatic. The neighborhood is just east of a former streetcar suburb and at the start of the postwar growth line. In 2000, the area was very diverse, with the populations of African Americans and Hispanics outnumbering other ethnic groups in the Eastland neighborhood. It is also an area of declining investment. Recent reports by the Urban Land Institute and the Planning Commission cite concerns about the decline of major anchor retailers at the local mall.

In terms of demographics, the percentage of adults ages 18–29 skyrockets, whereas the percentage of citizens over 65 declines in transit zones. Citizens over 55 decline by 5 percent, by far the highest of all the regions. The percentage of seniors making less than \$25,000 increases 9 percent in transit zones. This is also coupled with a 16 percent higher African American population in transit zones versus the region.

This, however, could change in the future. The Charlotte Area Transit System is planning on running streetcars down Central Avenue, which would affect the areas around it. This frequent service mode and frequent connections to surrounding neighborhoods or circulators could allow the Eastland mall area to grow into a node that would serve the assisted units to the north well.

Demographic Summary Highlights (Charlotte Planned and Existing Rail Stations)

- Average household size drops closer to the station
- 18–29 age group increases dramatically
- 55+ age group declines
- Over-65 income group earning less than \$25K increases
- African American and Hispanic populations increase

CHICAGO, ILLINOIS

Chicago is one of the older cities with extensive transit. It has grown up around the El and commuter rail lines, allowing it more than other regions to respond to transportation in terms of development. Coverage of the region results in 73 percent of all assisted units being within a half mile of frequent transit. Many of these neighborhoods in the core also

have good “bones,” with quality streets and neighborhoods that make walking and biking easy. As shown in the inset, the south side of Chicago has a lot of units for older residents. Chicago is also has a high rate (48 percent) of the units near transit expiring. This puts the region in the middle of the road but shows that units near frequent transit will be important to keep.

Demographic Summary Highlights (Chicago Existing Rail Stations)

- Average household size drops closer to the station
- Over-65 income group under \$25K increases
- African American population increases

CLEVELAND, OHIO

Cleveland is in the middle range of the regions in terms of coverage. The housing is mixed, and 54 percent is located near frequent transit. Cleveland is an interesting case in that it has been declining for many years. However, it has seen some recent TOD success, with more than \$4 billion being invested in its new bus rapid transit system. The Euclid corridor, which is partially shown in the map inset, connects major destinations such as hospitals, downtown, and universities. There are gaps around the outskirts of the region that could use better transit, and policies for increased location efficiency of new assisted units could prove beneficial.

Demographic Summary Highlights (Cleveland Existing and Planned Rail and Bus Stations)

- Average household size drops closer to the station
- 18–29 age group increases dramatically
- Lower household income
- Over-65 income group earning less than \$25K increases
- African American population triples to 53 percent

DENVER, COLORADO

Denver is an instance of good transit coverage, with assisted units located mostly along major corridors. In transit, there are two interesting things about Denver; by 2017, the city will have built 119 miles of new rail lines and currently has a frequent bus network that covers much of the region with 15-minute headways all day. Seventy-five percent of assisted units are close to transit, with only 45 percent of those units expected to expire in 2014.

As shown in the inset, there is a high concentration of units to the east of downtown in the Five Points neighborhood. That area has been made up of low-income residents but has been gentrifying because of its proximity to downtown.

Demographic Summary Highlights (Denver Planned and Existing Rail Stations)

- 18–29 age group increases dramatically
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- Hispanic population increases

HOUSTON, TEXAS

The Houston region is known, like Atlanta, for its development of the region's fringe and highway building legacy. However, planning in the region is changing as more transit choices are being explored and a massive expansion is underway. But considering the growth around the automobile for 60 years, it is not surprising that many people living on the fringe could be stuck and isolated without an automobile. The vast areas of gray in the map are the parts of the urban area that are not served by quality transit connections. That gray area also has a lot of assisted housing units that would require an automobile in most cases.

Twenty-eight percent of Houston's assisted units are located near transit. This is on the lower end of the spectrum, but in terms of total assisted units, Houston has 10,000, a fair amount. Houston's inset is of the southeastern side of the city, where a number of frequent bus lines pass but do not connect to the future light rail line planned to extend into the area from the north. There are, however, signs of hope. This area has a good street network and corridors that could possibly support neighborhood retail in the future.

Demographic Summary Highlights (Houston Existing Rail Stations)

- Household size decreases closer to transit stations
- 18–29 age group increases
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- Hispanic and African American populations increase

LOS ANGELES, CALIFORNIA

Los Angeles is fascinating because it is one of the four West Coast cities that could see a lot of its units expire unless something is done to protect them. It also has a high concentration of units near frequent transit. Frequent bus networks are bolstered by increasing calls for rail expansion and regional connections to employment centers. Certain areas that are more car oriented, however, still lack the connections needed to make them more affordable and walkable. But the areas with the largest clusters of assisted units are also some of the region's more walkable areas, with a good network of streets to facilitate neighborhood retail and use of alternative transportation.

The inset is a good example of this, showing the high concentration of units and grid street patterns. This area is served by the Los Angeles Subway, which has been discussed as a possible expansion project to Santa Monica on the coast along Wilshire Boulevard. Sixty-three percent of the assisted units are near frequent transit, and 51 percent of the total units expiring are near transit. As the region becomes more dense because of being hemmed in by mountainous geography, it is expected that regional corridors will only get stronger, necessitating more transit and more affordable housing along them. It is of the utmost importance that planning allows these neighborhoods to grow intelligently while promoting and preserving affordable housing.

Demographic Summary Highlights (Los Angeles Existing and Planned Rail Stations)

- Lower income households increase

- Over-65 income group earning less than \$25K increases
- Hispanic population increases

MIAMI, FLORIDA

Miami is like a few other regions in that it is hemmed in by geography—the ocean and the Everglades—as well as being a rather linear region from north to south, similar to San Francisco and Seattle. However, there are pockets of housing for older residents that are underserved by frequent transit, and much of the western part of the region is not well served. As the region grows and space to grow becomes more limited, it could be expected that major corridors become destinations for new development and better service. The coverage is adequate now, with 49 percent of assisted units within a half mile of frequent transit, but it could be improved.

The inset shows a huge concentration of units south and west of the region’s major heavy rail line. This neighborhood just west of downtown, called Little Havana, is primarily Hispanic, and has good connections to the east and west with two frequent bus lines. There are no plans to expand rapid transit to this neighborhood, but the area has strong corridors and a good grid network for walking and biking.

Demographic Summary Highlights (Miami Existing Rail Stations)

- Lower income households increase
- Over-65 income group earning less than \$25K increases
- African American and Hispanic populations increase

MINNEAPOLIS/ST. PAUL

The Twin Cities region made up of the major centers of St. Paul and Minneapolis is an interesting case for the future. The map shows multiple units scattered all over the region without regard for transportation, and many are outside of the reach of frequent transit. In fact, only 38 percent are within a half mile of frequent transit. Recent planning, however, indicates that more extensions to light rail are on the way, and that these lines will serve new corridors that have numerous assisted units located on them. The rapid transit will be good, but also needed are more extensive bus connections on major destination corridors. Minneapolis has close-in frequent bus service and at some point will convert the buses to streetcars, but the service does not extend past the inner loop of the city that defines the former streetcar suburbs.

The inset shows downtown and just south of downtown in the Lake Street district. This is a fairly dense neighborhood with a lot of jobs and good housing stock. It is also home to a number of assisted housing units that provide the residents with walkable neighborhoods and easy access to transit. But outside of this area, many of the units are elderly and are far outside the reach of good service frequencies. This does not mean they are devoid of transit; however, making appointments and going about daily routines are harder when the service is lacking.

Demographic Summary Highlights (Minneapolis/St. Paul Existing Rail Stations)

- Average household size decreases closer to the station
- Lower income households increase

- Over-65 income group earning less than \$25K increases
- African American population increases

NEW YORK, NEW YORK

The map of New York City shows the extent to which people have increased transit options over the rest of the country. However, the need to preserve is important and should be seen as an important policy of the city.

Demographic Summary Highlights (New York Existing Rail Stations)

- Lower income households increase
- Over-65 income group earning less than \$25K increases at a smaller rate than other places
- African American and Hispanic populations increase

PHILADELPHIA, PENNSYLVANIA

Philadelphia is a great example of a heritage transit network serving the region well and creating opportunities for housing because there is so much quality transit. The region boasts extensive regional rail as well as streetcars and a north–south heavy rail subway spine. The region’s assisted units are also well positioned, with 62 percent of them near frequent transit. However, 47 percent of all units are expiring and near transit. This puts Philadelphia in with other major cities like New York and Boston in that they have a lot of units near transit and a lot of units total, but approximately half of all units face expiration in 2014. The inset is of North Philadelphia, where a number of regional commuter rail lines cross with frequent bus lines and the north end of the Broad Street Subway. It shows that good coverage has many directions and that people could possibly connect to anywhere in the region.

Demographic Summary Highlights (Philadelphia Existing Rail Stations)

- Lower income households increase
- 18–29 age group increases
- Over-65 income group earning less than \$25K increases
- African American population increases

PHOENIX, ARIZONA

Phoenix, like Houston and Atlanta, is known for hot weather and automobile-related development. The blocks in Phoenix are huge and not as conducive to redevelopment as other regions with smaller blocks and more pedestrian amenities that grew up around streetcar lines. The development of the region also lacks a lot of transit. A light rail network with several extensions planned is in the works, and frequent bus lines need to be increased; however, major parts of the north and southeast have no connection to all-day frequent transit. Coverage is low for the assisted housing units and employment is rather dispersed, making it hard to make connections. Only 31 percent of assisted units are near transit, and much of the housing is outside of the downtown core of good streets and neighborhoods.

The inset is located west of downtown and encompasses a town called Glendale. A lot of senior housing units surround the downtown of Glendale and are just outside of the reach of a frequent circulator. It is possible that this could be a template for other areas with special districts that would be able to connect with surrounding assisted units through circulators or corridor transit.

Demographic Summary Highlights (Phoenix Planned Rail Stations)

- Lower income households almost double to 45 percent
- Average household size decreases closer to the station from 2.7 to 2.2
- 18–29 age group doubles
- Over-65 income group earning less than \$25K increases from 39 to 59 percent
- Hispanic population increases

PORTLAND, OREGON

Portland, like Denver and Salt Lake City, is an example of a western city without heritage transit networks pushing to expand service while serving the region quite well with frequent transit. Portland has a frequent service network that is advertised as 15 minutes all day and covers most of the region. In addition, housing units are located along these major corridors and easily accessible to 75 percent of the assisted units. However, like other western cities such as Los Angeles, Seattle, and San Francisco, Portland has a high rate of expiring units compared with everywhere else around the country.

Plans to expand the transit network in the future include a Portland streetcar network and the extension of rapid transit to other parts of the region. This is building on its initial success with MAX lines and the Portland Streetcar, which have proven to be huge regional assets. The inset shows old streetcar neighborhoods of north Portland with their interconnected street network and good bus service; they provide a model for how regions should develop corridors and place new assisted units. Martin Luther King is also under discussion for a streetcar expansion.

Demographic Summary Highlights (Portland Existing and Planned Rail Stations)

- Lower income households increase
- 18–29 age group increases
- Over-65 income group earning less than \$25K increases
- Hispanic population increases

SALT LAKE CITY, UTAH

The Salt Lake City region is smaller compared with other western regions but has put together an extensive transit network to serve its citizens. Currently planned is 70 miles of new rail construction along with discussions of a possible streetcar network. Bus rapid transit has also been recently introduced, making Salt Lake City a very multimodal region kicked off initially by a planning movement called Envision Utah. The map also makes clear the inside the loop versus outside the loop service that is prevalent in many of these regions. Inside the interstate highway loops are the old streetcar neighborhoods that are served with quality corridors and good bus networks. Outside the loop are the auto-oriented developments and less likely to be pedestrian oriented. Tackling this issue will

take beefing up corridors with concentrated development and serving those corridors with good transit, making mobility easier.

Salt Lake City is a part of the better western cities such as Portland and Denver. It covers 66 percent of all assisted units, but relatively few are set to expire. The inset shows this benefit, with good transit and street connectivity leading to a more comprehensive network and better coverage of the region. There are not as many units in this region as there are elsewhere; however, assisted units have a great structure to grow on in order to be connected to destinations and services in the future.

Demographic Summary Highlights (Salt Lake City Existing and Planned Rail Stations)

- Household size decreases
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- Hispanic population increases

SAN FRANCISCO BAY AREA, CALIFORNIA

The San Francisco Bay area, which includes Oakland and San Jose, is similar to Seattle in north–south geography, and the frequent bus network is extensive. San Francisco, however, is the best of all regions when it comes to serving existing assisted units with frequent transit. Ninety-five percent of the units are served by frequent transit; however, this also raises alarm given that 73 percent of them will be expiring and are near transit.

In the inset, the view is of the new Third Street light rail corridor and the Bay View Hunters Point neighborhood. This area is a historically low-income African American neighborhood that is facing gentrification pressure and transition issues as it moves from being a former shipyard to a newly refurbished neighborhood. The recently completed light rail line has been called a blessing and a curse by creating new infrastructure and improving the district but also bringing with it higher home prices and new residents.

Demographic Summary Highlights (San Francisco Region Existing Rail Stations)

- Household size decreases
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- Asian population increases
- High percentage (20 percent) making over \$100K

SEATTLE, WASHINGTON

Seattle is a one of the regions with a north–south orientation and geographic boundaries that keep its development oriented in one direction. It is also another West Coast city that finds itself facing expiration of many of its assisted units near transit. Sixty-six percent of Seattle’s units are near frequent transit. Currently, a light rail line is under construction and several extensions are planned; like Portland, streetcars are also part of the discussion

of future expansion throughout the core of Seattle. Many of the jobs and denser housing are along an east–west core from Redmond to downtown, but the area is well served by transit and will be transformed by any new rapid transit planning that will take place.

The inset shows the Northgate area, which is expecting a light rail extension and has several frequent bus lines. This area also has good street connectivity and connections to commercial corridors. As shown in the larger map, however, the eastern corridor of I-405 is not as well served as the I-5 corridor. This leaves many of the assisted units in parts of the region not well served by transit and susceptible to higher gas prices during spikes.

Demographic Summary Highlights (Seattle Existing and Planned Rail Stations)

- Household size decreases, lowest of all regions
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- Asian and African American populations increase
- 19–29 age group increases
- Huge decrease in under age 18 population

ST. LOUIS, MISSOURI

The St. Louis region could be improved with better bus service. Many of the units outside the reach of frequent transit lines have older residents, and a lot of housing in East St. Louis is not served at all by frequent transit with the exception of the Metrolink line. Plans for expansion have been on the table for a while but are awaiting a funding increase. This would build Metrolink service farther west, north, and south. Without these extensions, coverage is the lowest of the 20 cities, with only 26 percent of assisted units near frequent transit.

The inset shows the multiple neighborhoods north of Forest Park. The southern-most station on the inset is the location of a major university hospital complex. Planning for the area includes streetcars along Delmar Avenue that fill in a slight gap in service. It is noticeable, however, that some of the units are just beyond walking distance from the frequent transit, although they do have proximity to major corridors and are walkable.

Demographic Summary Highlights (St. Louis Region Existing Rail Stations)

- Household size decreases
- Lower income households increase
- Over-65 income group earning less than \$25K increases
- African American population increases

WASHINGTON, D.C.

Washington, D.C., is an interesting case. We were not able to gather frequent bus routes outside of the District, so the numbers could be a bit skewed here; however, Metro provides good regional rapid transit service, and if expanded as planned to Tysons Corner and Dulles International Airport, it could provide rich connections to jobs in an already well-connected region. Units for older residents, however, are sited poorly in the region, with many of them on the outskirts away from compact walkable centers and good-quality transit. Most of these units are to the north and west of downtown.

After 9/11, aerial photographs of the District became hard to come by; thus, we see just a street grid in the inset. The inset shows an area just north of the Capitol area. These are perhaps the fastest-growing parts of the city where there is a lot of new construction and neighborhood revitalization. There is also a trend of people moving back into the city, which is causing prices to go up. This escalation is an important consideration in preservation.

Demographic Summary Highlights (Washington, D.C., Existing and Planned Rail Stations)

- Average household size drops dramatically closer to the station
- 18–29 age group increases dramatically
- Over-65 income group earning less than \$25K increases
- African American population increases