
rea Regional Transit Authority
1807
WELCOME TO DART

Market Analysis

DART is consistently evaluating the existing and future markets for mobility services in the Greater Des Moines region. The Transit Optimization Study took a deeper dive to evaluate existing "transit propensity" – the overall likelihood of an area to generate transit ridership – in addition to existing overall travel in the region (not just transit) and potential growth markets.

Transit Propensity Analysis

The built environment and socioeconomic factors drive transit propensity, including population density; job density; proportion of low-income, zero-car, and non-white households; specific age groups of the population; and persons with disabilities.

Areas served by DART's frequent local network have the highest transit propensity. DART's operating resources are deployed to maximize ridership and productivity.

Ankeny is the largest exception, having relatively high transit propensity and limited service and ridership.

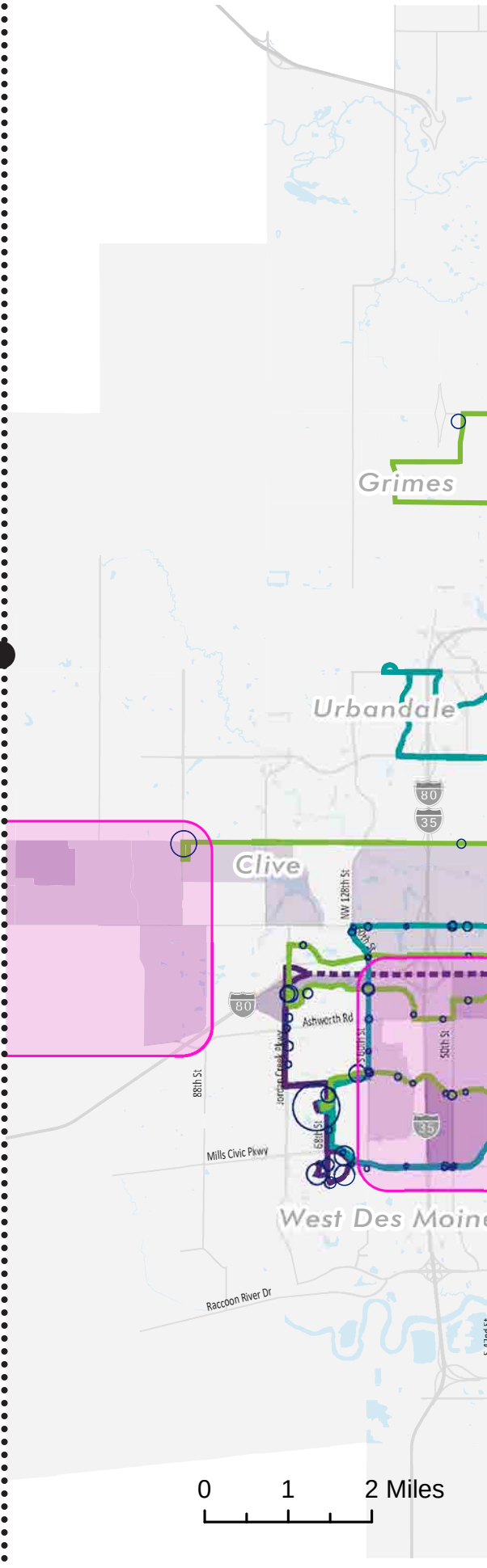
Waukee, not currently a DART member city, shows propensity levels that are comparable to many areas where DART currently operates fixed route service.

Transit Propensity

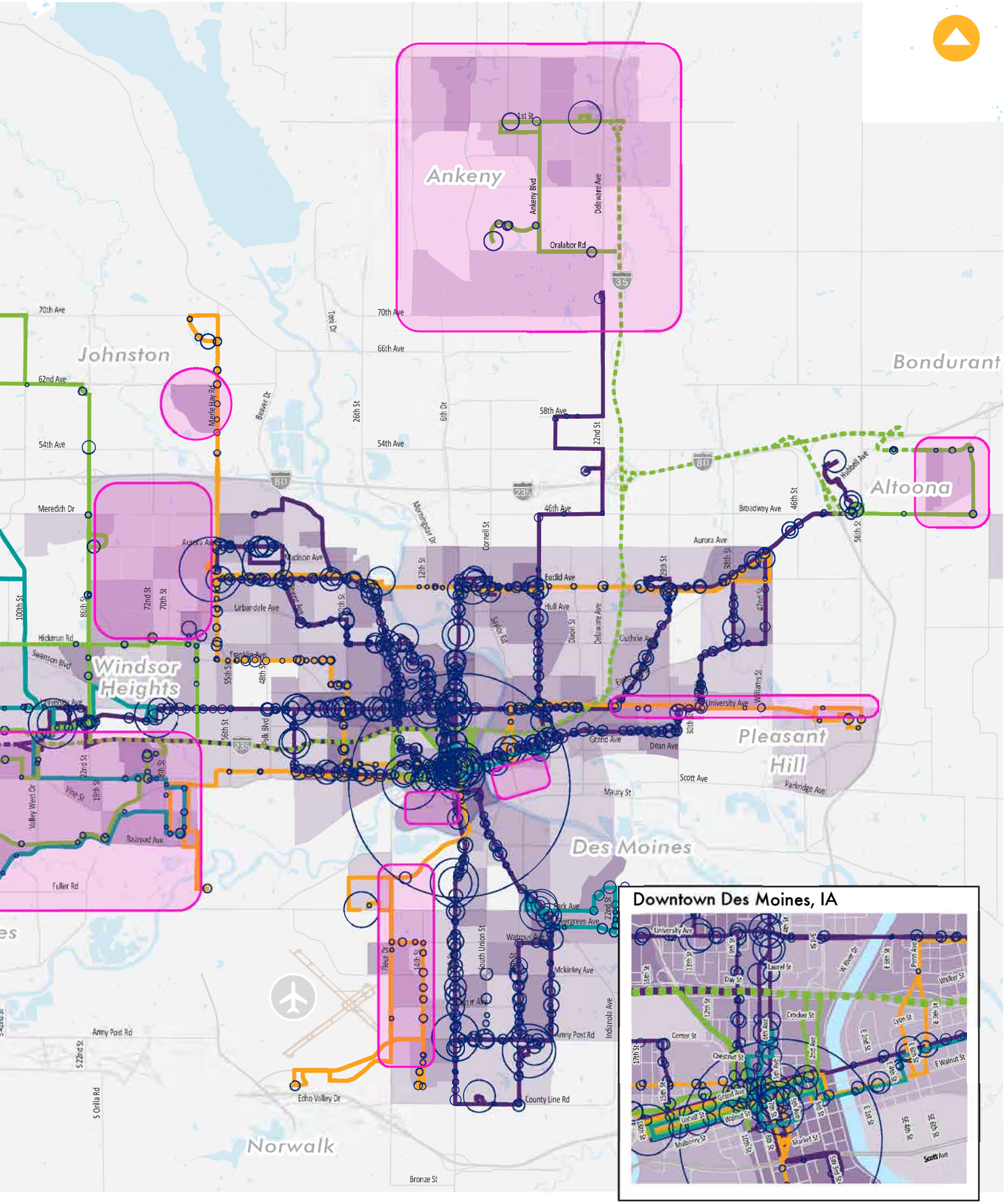
Opportunity Areas

This map highlights "opportunity areas" with high transit propensity and low ridership, including Fleur Drive, Ankeny, parts of West Des Moines and Urbandale, Gray's Station, Market District, and Altoona.

DART service in these areas focuses on downtown-oriented commuter trips; but many trips originating in these areas are not headed downtown and are not well served by transit. MOD and expanded all-day fixed route service may better facilitate circulation within communities and to mobility hubs where other routes and services connect.



Sources: DART passenger count data, 2019. | American Community Survey 5 Year Estimates for total population, minority population, low-income population, zero-vehicle households, seniors (65+), youth (under 18), college-aged residents (18-24), and persons with disabilities. | Des Moines Area Metropolitan Planning Organization estimates of employment.


Ankeny
Johnston
Bondurant
Altoona
Windsor Heights
Pleasant Hill
Des Moines
Norwalk
Downtown Des Moines, IA

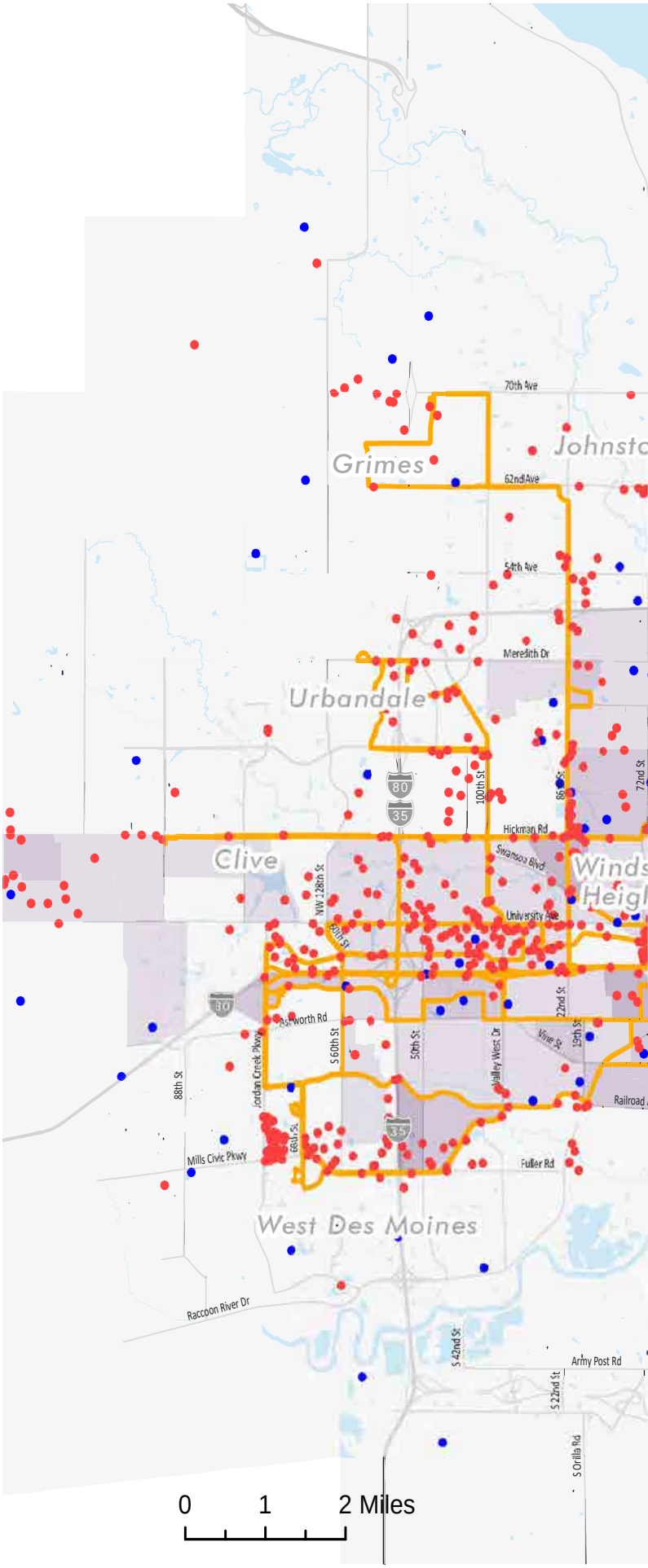
Jobs/Housing Mismatch

There is geographic mismatch between low income households and low-wage jobs. Low-income households are more concentrated within approximately five miles of Downtown Des Moines, while low-wage jobs are more dispersed, creating a jobs-to-housing mismatch. Today, many transit trips linking workers to jobs require transfers downtown and reverse commute travel patterns.

A large and growing concentration of jobs exists near the edge of DART's service area where scheduled transit service is limited or nonexistent.

DART's Express and On Call services are not well suited to serving reverse commute trips made by low-wage workers because of limited hours and lack of service on nights and weekends.

In 2020, DART began a pilot program expanding availability of reduced fares to individuals receiving food assistance, housing assistance, unemployment benefits, or workforce training programs. More than ¾ of customers using the half-fare benefit commute out of downtown to suburban employment locations, rather than the traditional inbound commute.



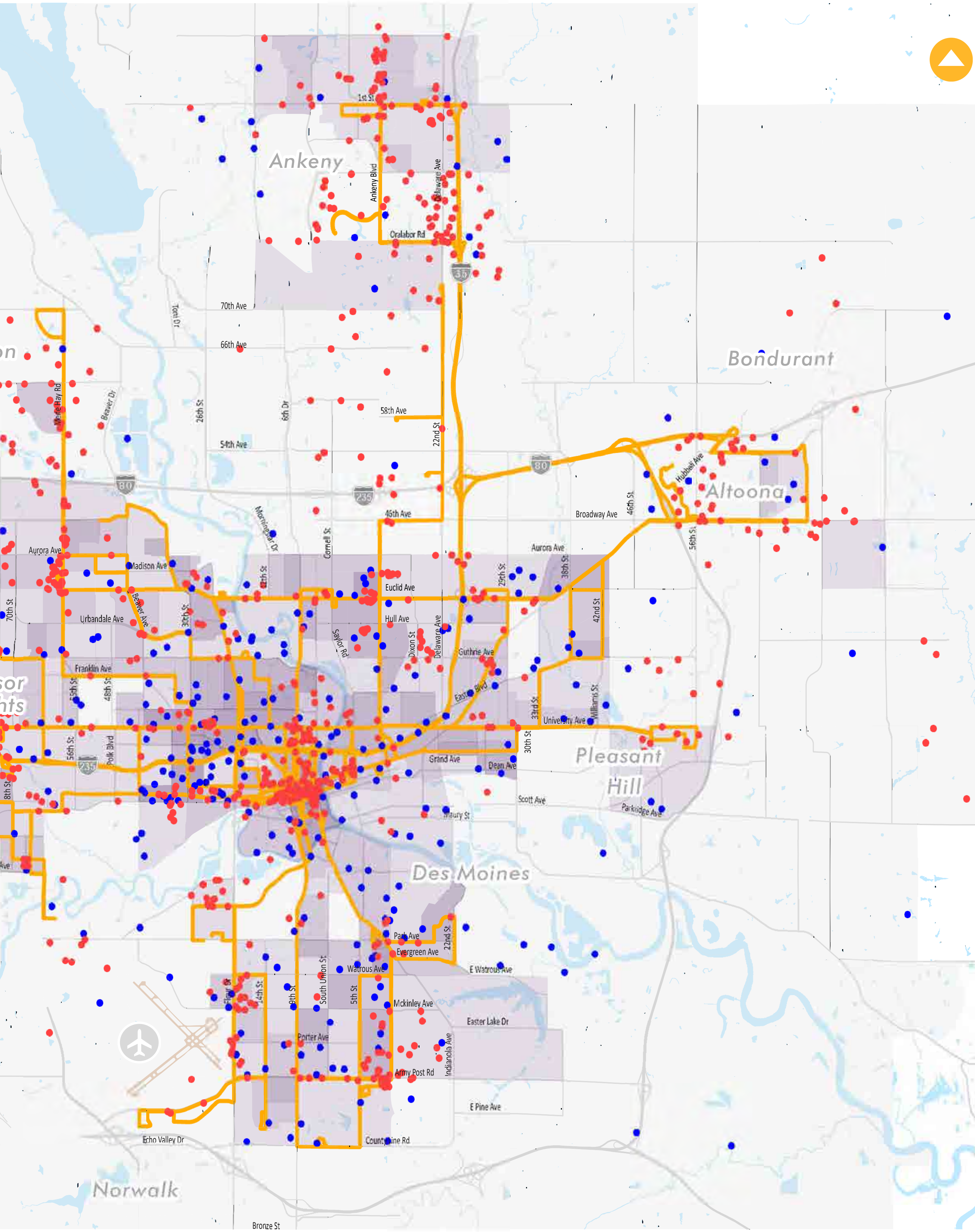
Legend

Transit Demand Potential
- Very High
- High
- Moderate
- Low
- Very Low
- DART Fixed Route Network

Jobs paying less than $1,250/mo
- 1 Dot = 50 jobs

Households earning less than $1,250/mo
- 1 Dot = 50 households

Source: Census and Polk County Data


Ankeny
1st St
Ankeny Blvd
Delaware Ave
Oralabor Rd
35
70th Ave
66th Ave
Bondurant
58th Ave
22nd St
54th Ave
26th St
6th Dr
Beaver Dr
Merle Hay Rd
80
235
45th Ave
Altoona
Hubbell Ave
Broadway Ave
46th St
56th St
Aurora Ave
Madison Ave
Cornell St
Euclid Ave
Hull Ave
29th St
38th St
42nd St
Urbandale Ave
Beaver Ave
30th St
Saylor Rd
Dixon St
Guthrie Ave
Franklin Ave
48th St
Easton Blvd
33rd St
Williams St
University Ave
Pleasant Hill
Grand Ave
Dean Ave
56th St
Polk Blvd
Scott Ave
Maury St
Parkridge Ave
Des Moines
Park Ave
Evergreen Ave
E Watrous Ave
Watrous Ave
South Union St
5th St
9th St
14th St
Mckinley Ave
Easter Lake Dr
Porter Ave
Army Post Rd
Indianola Ave
E Pine Ave
Echo Valley Dr
Norwalk
Bronze St

Market Analysis (StreetLight)

DART leveraged big-data transportation analytics provided through StreetLight Data to gain a fuller understanding of trip patterns throughout the region, and to better understand not only existing transit users, but also the larger universe of potential transit users.

DART Ridership vs. Regional Travel

The highest ridership times on the DART network are weekdays during the morning and peak "commute" periods. Saturday ridership is 57% lower than weekday ridership and Sunday ridership is 75% lower (see top figure below).

Overall regional travel activity looks different than DART's peak ridership times (see bottom figure below). Across the region lots of trips occur on the weekends – almost as many as during weekdays. On weekdays, travel demand remains high throughout the midday, growing gradually from the AM rush to the PM rush.

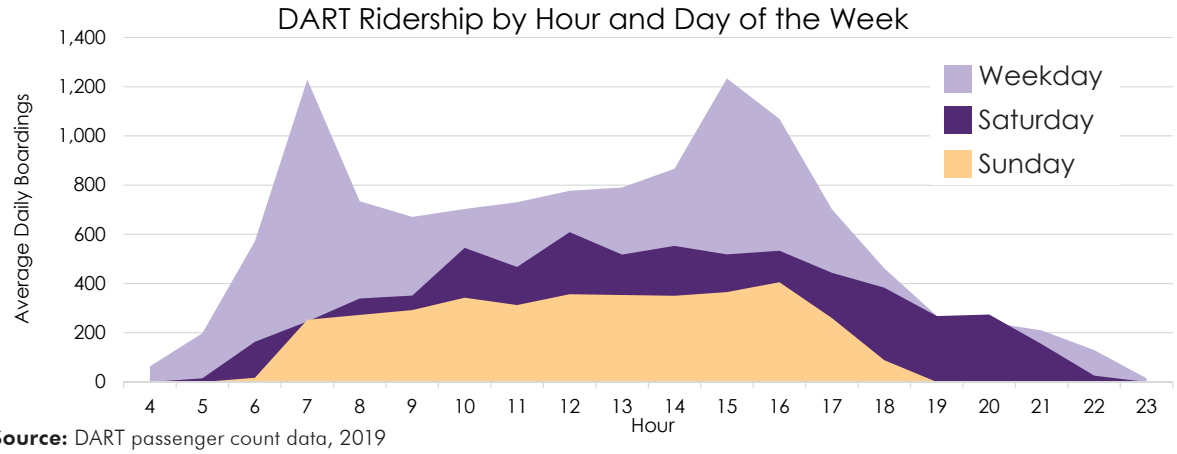
Weekend trips go to different destinations at different times of day than weekday trips. They are concentrated in the middle of the day and tend to include more non-work trips such as shopping and recreation. DART could consider emphasizing service improvements on non-downtown oriented routes on weekends.

There is a significant drop in commute trips to and from Downtown Des Moines on weekends. DART's Saturday and Sunday fixed route networks generally mirror the weekday network designed to facilitate and emphasize access to and from downtown.

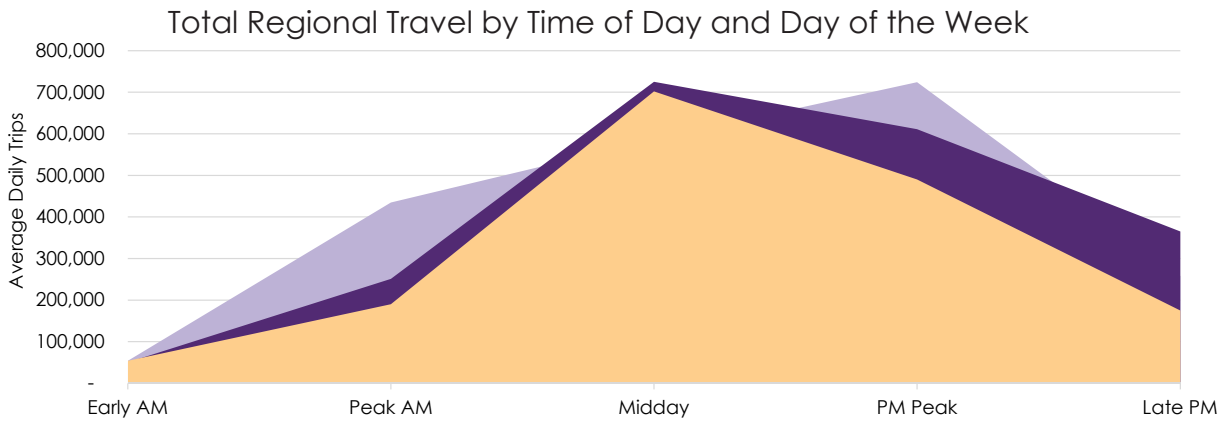
The StreetLight Data analysis also showed that certain parts of the region, including West Des Moines, Altoona, and southeast Des Moines, see more trips on weekends than on weekdays, and these trips mostly do not go downtown.

StreetLight Data

StreetLight Data transportation analytics, derived from GPS and smartphone-based app data, provides detailed information for trips to, from, or within different parts of the region for people using all forms of transportation. The data allows DART to better understand overall travel patterns and potential travel markets it might serve in the future.



Source: DART passenger count data, 2019



Source: StreetLight Data, 2019 travel patterns

Density of AM Trips to Downtown Des Moines

Generally, areas closer to Downtown Des Moines have a higher proportion of overall travel that goes to and from downtown. These are the trips that are best served by the existing fixed route transit network, which is optimized for traditional commute patterns within the region (to and from downtown).

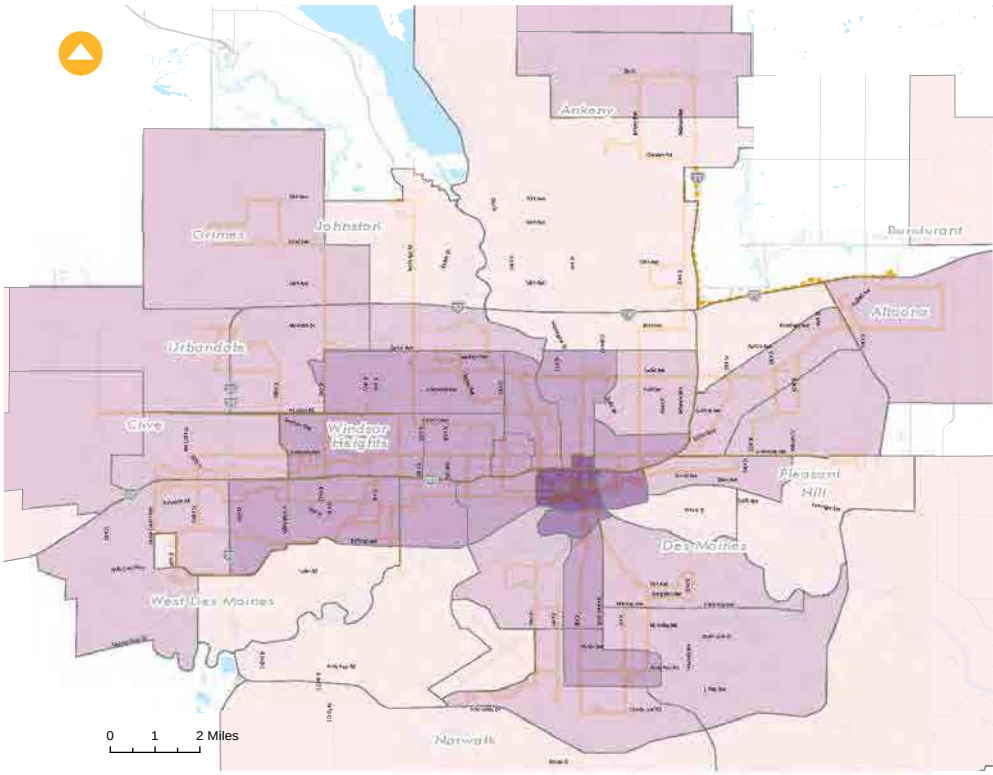
The data also showed that there are a lot of longer trips that do not go to (or through) downtown, making them difficult to serve by fixed route transit. For example, there are relatively high numbers of trips between Altoona and the Pleasant Hill/ eastern Des Moines area, between Grimes and western West Des Moines, and between West Des Moines and Ankeny.

Legend

- DART Fixed Route Network

Density of Trips per square mile

- 0 – 75
- 75.1 – 200
- 200.1 – 500
- 500.1 – 1000
- 1000.1 – 2000



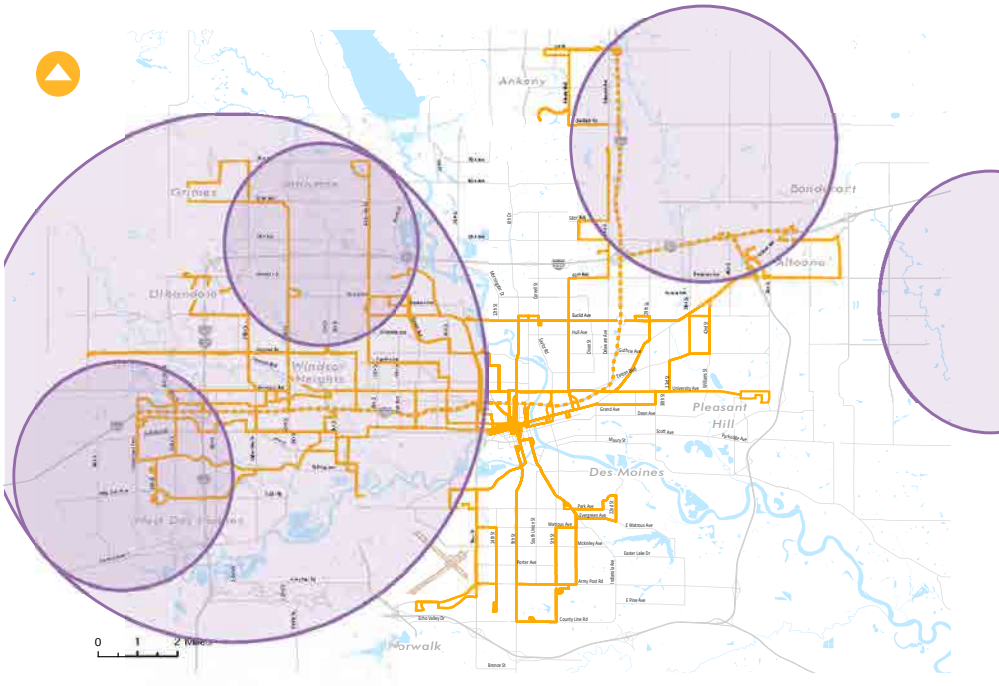
Map: Density of Trips (per square mile) to downtown during the morning peak period.
Source: StreetLight Data, 2019 travel patterns

Sub-regional Travel

While the DART system well-serves commuters to and from downtown, large proportions of trips stay within suburban parts of the region, particularly those areas further from Downtown Des Moines including Ankeny, Altoona, and western West Des Moines. These trip patterns are more challenging to serve with fixed route transit because of dispersed origins and destinations and lower overall density of activities and trips. MOD service, oriented for both point to point trips and to feed the DART fixed route network, may better serve these local travel markets.

Legend

- Areas of high sub-regional/local travel
- DART Fixed Route Network



Map: Areas of sub-regional travel.
Source: StreetLight Data, 2019 travel patterns


dart ELECTRIC BUS

How is the Region Changing?

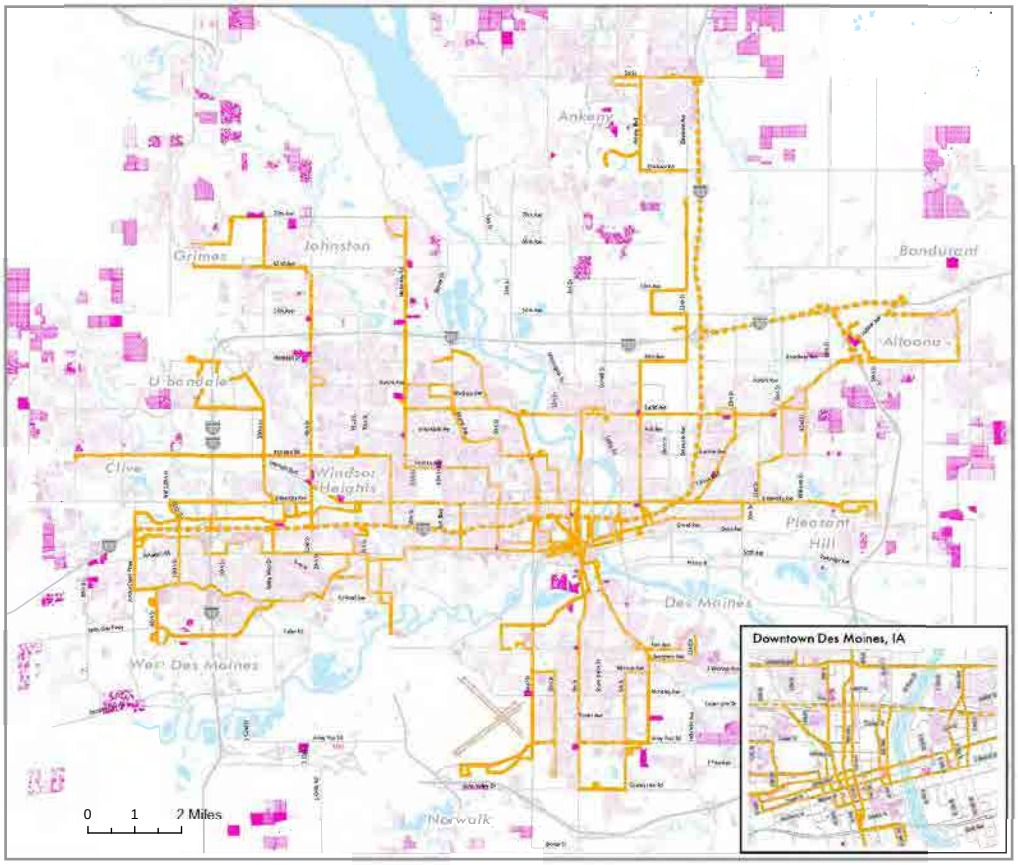
As DART plans for the future, it is clear that service models will need to adapt to best serve a changing region. Greater Des Moines' population is anticipated to continue to change dramatically over the next 35 years – including a growing and aging population, and geographic expansion of population and employment further from the core of the region.

The region benefits from a vibrant downtown, growing employment centers and significant infrastructure investments. However, a majority of the DART service area contains development patterns and population or employment densities that are challenging to provide with cost-effective transit service. Regional demographic forecasts predict that the majority of future growth will continue to follow this trend.

Demographic and Employment Growth

Projected Housing Growth

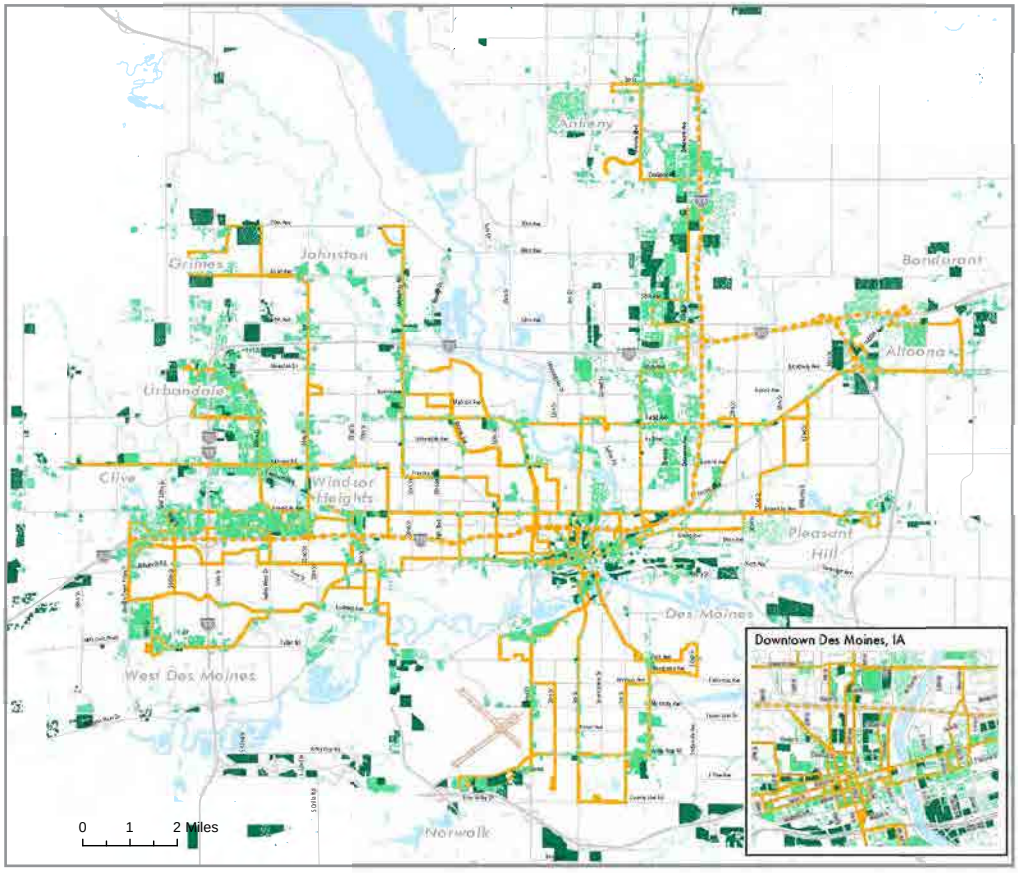
- Nearly all of the forecasted housing growth (93%) is anticipated outside of DART's existing fixed route service area and population density in the region is projected to continue to decline.
- Today, about half of the region's population (52%) is within a ½-mile of a transit stop. In 2050, it is projected that less than 40% percent will be within ½-mile of the current DART fixed route network.



Source: Des Moines Area Metropolitan Planning Organization

Projected Employment Growth

- Significant employment growth is also projected. It is anticipated that 21,000 jobs will be added to downtown by 2050. There will also be substantial growth in emerging job centers, decreasing the regional share of jobs in Downtown Des Moines.
- Extending service to projected growth areas would likely reduce DART's system productivity, increasing DART's operating cost per passenger



Source: Des Moines Area Metropolitan Planning Organization

How Land Use and Development Patterns Impact DART

Land use patterns directly impact transit operating costs: Lower development densities drive up the per-capita cost of providing transit service. Additionally, it is common for new employers to locate beyond the reach of DART's current fixed route network, placing additional cost pressure on DART to provide service to these locations. The existing pattern of low-density, auto-centric development along non-linear corridors that is projected to continue at the regional level presents a long-term challenge to DART's ability to provide cost-effective fixed route transit service.

The metropolitan transportation plan of the Des Moines Area Metropolitan Planning Organization, Mobilizing Tomorrow 2050, and the DART Forward 2035 plan both recognized that transit planning must be woven into land use planning and community development. Transit-supportive planning can take the form of broad-based policy objectives, such as encouraging denser development and complete streets. It can also focus on specific developments and ensuring the provision of space for bus shelters, sidewalks, and for larger developments, transit layover and transfer facilities.

Photo: New Lillis Lofts in Urbandale, adjacent to Merle Hay Mall, with access to transit, essential services and jobs.

A number of DART member communities have adopted policies that can promote transit-supportive infrastructure and development. Some examples include:

Des Moines and West Des Moines emphasize transit access in supporting medium- and high-density residential areas. The City of Des Moines further envisions a network of community nodes and corridors to support community shopping, services and public amenities with good proximity to transit. **DART can work closely with its member cities to jointly pursue infrastructure projects aimed at incorporating high-quality transit into these corridors and nodes.**

The City of Altoona focuses on providing housing opportunities near commercial areas both to attract and provide workforce housing near places of business. **The Greater Des Moines Housing Study identified transit as a tactic to improve affordable housing opportunities by promoting development on infill sites in close proximity to existing transit service.**

The cities of Ankeny, Des Moines, Grimes, Johnston, and Windsor Heights all identified transit as a strategy to reduce transportation demand and mitigate the need for expensive roadway expansion projects. This capitalizes on **public transit's ability to maximize roadway throughput compared to single-occupant vehicles.**

The cities of Des Moines, West Des Moines, Johnston, Pleasant Hill, Urbandale, and Windsor Heights have adopted Complete Street policies or resolutions. Complete Streets policies ensure safe access to and from transit: **all transit passengers begin or end their trips as pedestrians.**

The One Economy Polk County Report highlights the importance of public transit access to populations in Central Iowa with higher unemployment rates. The report emphasizes that **lack of access to a private car can be a barrier to employment opportunities, and public transportation can play a critical role in bridging this gap.**