

CHAPTER 4



Photo: Maple Street in Holyoke, MA

EQUITY

A. BACKGROUND

The Pioneer Valley Planning Commission (PVPC) is required to certify to the Federal Highway Administration and the Federal Transit Administration that their planning process addresses the major transportation issues facing region. This certification assures that planning is conducted in accordance with Title VI of the Civil Rights Act of 1964, and requirements of Executive Order 12898 (Environmental Justice). Under the provisions of Title VI and Environmental Justice PVPC works to assess and address the following:

Civil Rights Act of 1964, Title VI " No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Executive Order 12898, Environmental Justice "Each Federal agency shall make achieving environmental justice part of its mission by

identifying and addressing as appropriate disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

The U.S. Department of Transportation (USDOT) issued a DOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations in 1997. It identifies environmental justice as an "undeniable mission of the agency" along with safety and mobility. USDOT stresses three principles of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of reduction in or significant delay in the receipt of benefits by minority and low-income populations.

B. GOALS OF THE PIONEER VALLEY ENVIRONMENTAL JUSTICE PLAN

The Pioneer Valley Planning Commission has been working together with Pioneer Valley Transit Authority (PVRTA), MassDOT, Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on addressing the principles of Title VI and Environmental Justice in the transportation planning process for the Region. The primary goals of the plan include:

1. Goals Related to Identifying the Region's Minority and Low-Income Populations

- Develop a demographic profile of the Pioneer Valley Region that includes identification of the locations of socio-economic groups, including low-income and minority populations as covered by the Executive Order on Environmental Justice and Title VI provisions.

2. Goals Related to Public Involvement:

- Create a public involvement process that identifies a strategy for engaging minority and low-income populations in transportation decision making, and routinely evaluate this strategy for its effectiveness at reducing barriers for these populations.

3. Goals Related to Service Equity:

- Institutionalize a planning process for assessing the regional benefits and burdens of transportation system investments for different socio-economic groups. Develop an on-going data collection process to support the effort and identify specific actions to correct imbalances in the RTP, TIP and Transit funding.

C. IDENTIFICATION OF MINORITY AND LOW INCOME POPULATIONS AND TARGET POPULATIONS

Strategy - Identifying minority and low-income populations using Census data. Review EJ population thresholds and assessment methods from other regions and select a definition that provides the best representation for minority and low-income populations in the Pioneer Valley.

The equity performance measures developed in subsequent sections of the plan are dependent on an accurate definition of the "target population." The 43 communities of the Pioneer Valley Region are diverse in incomes and ethnicity. The region's urban cores of 14 communities comprise the majority of the population and nearly 90 percent of the jobs. To establish the most effective measure of equity, PVPC staff reviewed EJ plans from similar Metropolitan Planning Organizations in other parts of the country. The definition used to define "target populations" in each of these plans was scrutinized and evaluated based on its applicability to our region. From these plans, 8 different population definitions for low income and minority populations were singled out for review in Pioneer Valley. PVPC actively solicited additional feedback and input from stakeholders in the region.

1. Minority Populations

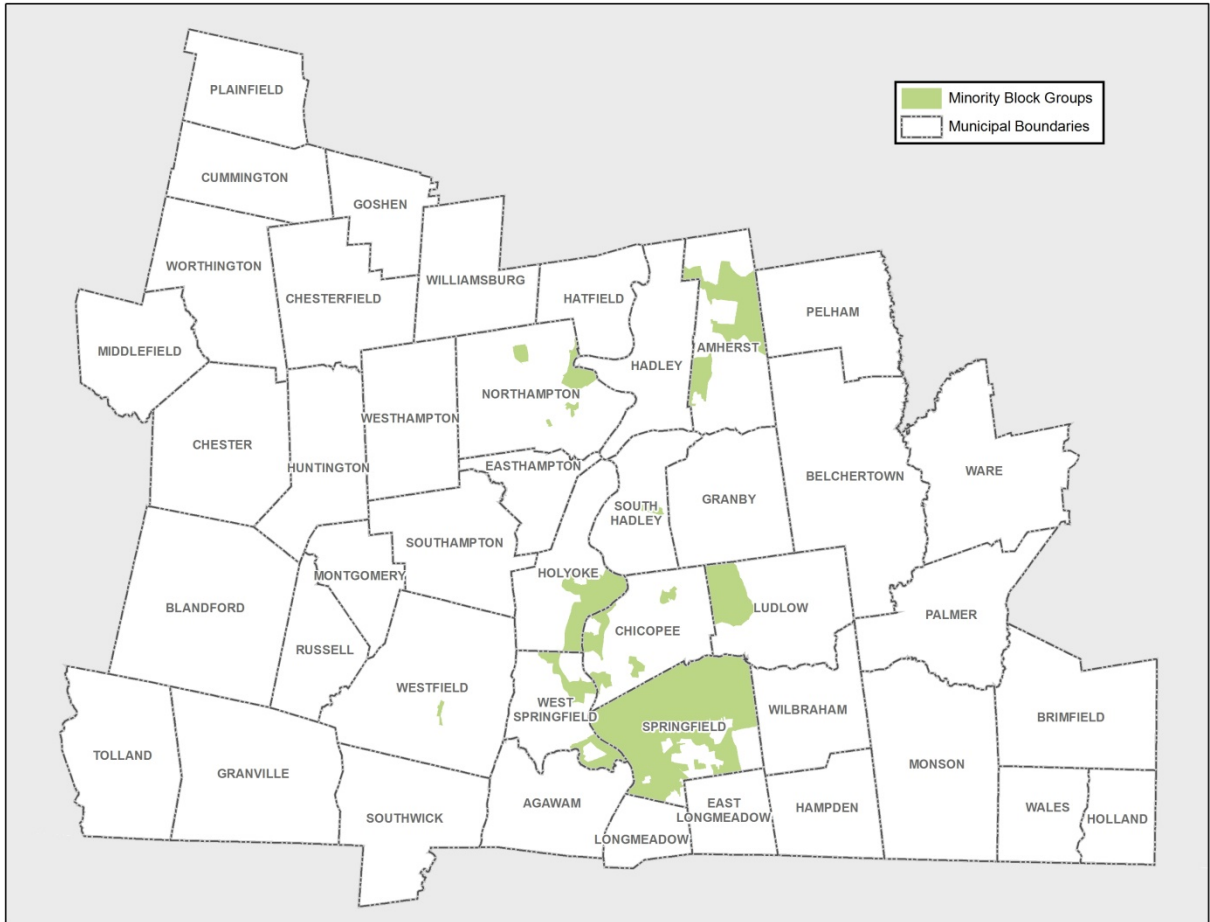
The PVMPO defines "minority" as "the population that is not identified by the census as White-Non-Hispanic" in the ACS (2010 based Census). Under this definition, minority persons constitute 23.48% of the region's population. The racial or ethnic groups included are:

- White Non-Hispanic
- African-American or Black
- Hispanic or Latino (of any race)
- Asian (including Native Hawaiian, & other)
- American Indian (& Alaska Native)
- Some other race
- Two or More Races

2. Identification of Low Income Populations

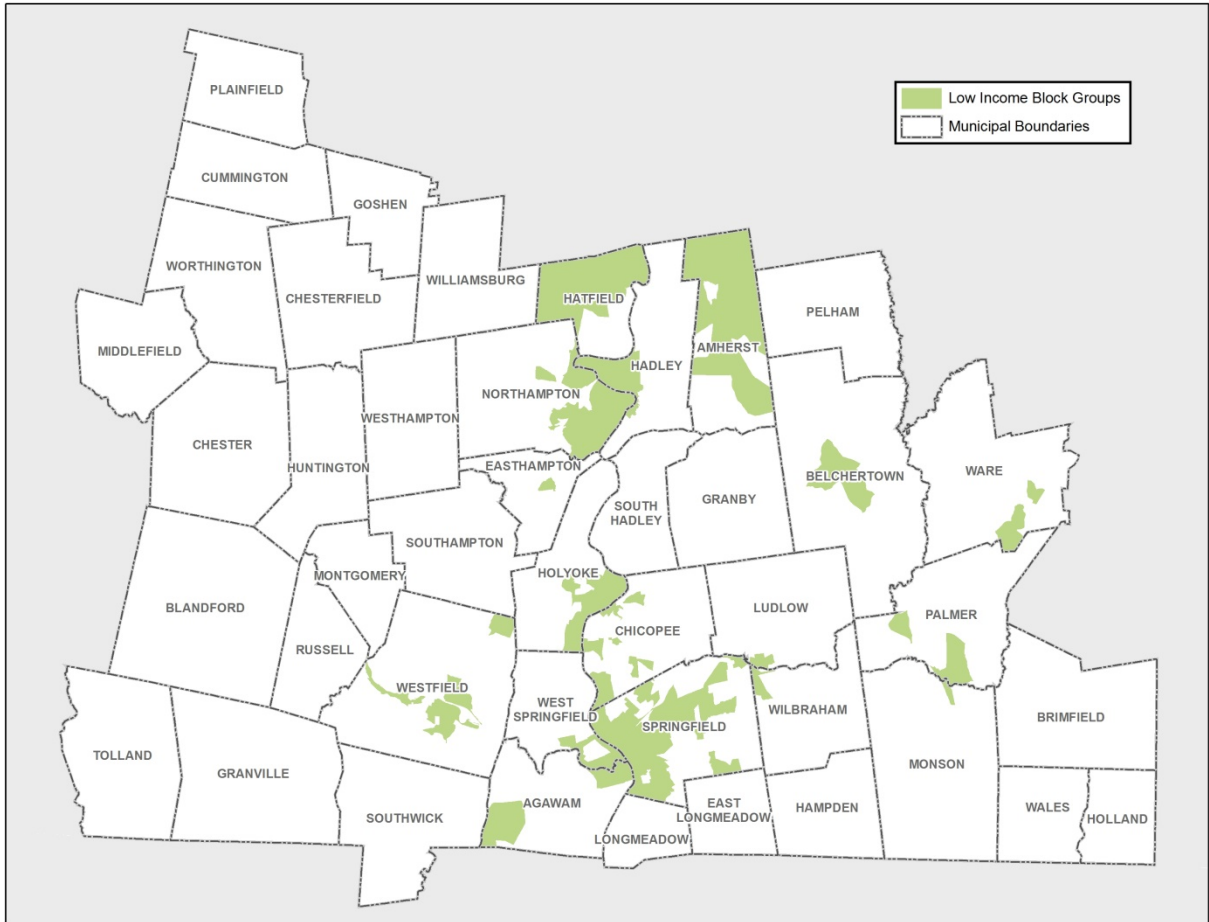
The PVMPO defines "low income" areas using census block group data. Any block group with a proportion of people in that block group living at or below the federally defined poverty level that exceeds the proportion of people in poverty in the region as a whole, which is 15.47% is defined as "low income."

Figure 4-1 – Census Block Groups with Minority Populations Exceeding Regional Average



Source: ACS 2006-10 (2010 based Census)

Figure 4-2 – 2010 Census Block Groups with a Poverty Rate above that of the Region



Source: ACS (2010 based Census)

D. IDENTIFICATION OF PERSONS WITH DISABILITIES POPULATIONS

In identifying “Persons with Disabilities” PVPC used the Census definition of employed persons with a disability between ages 21-64. A more inclusive definition of people needing transportation services would also include age groups 5 and younger, and children age 5-17. However, because these age groups are not considered part of the workforce that typically needs daily transportation; they are not included in this analysis. The update of this report used the American Community Survey block level estimates for this data.

Figure 4-3 – Census Block Groups- Individuals in the Pioneer Valley Age 21-64 with Disabilities

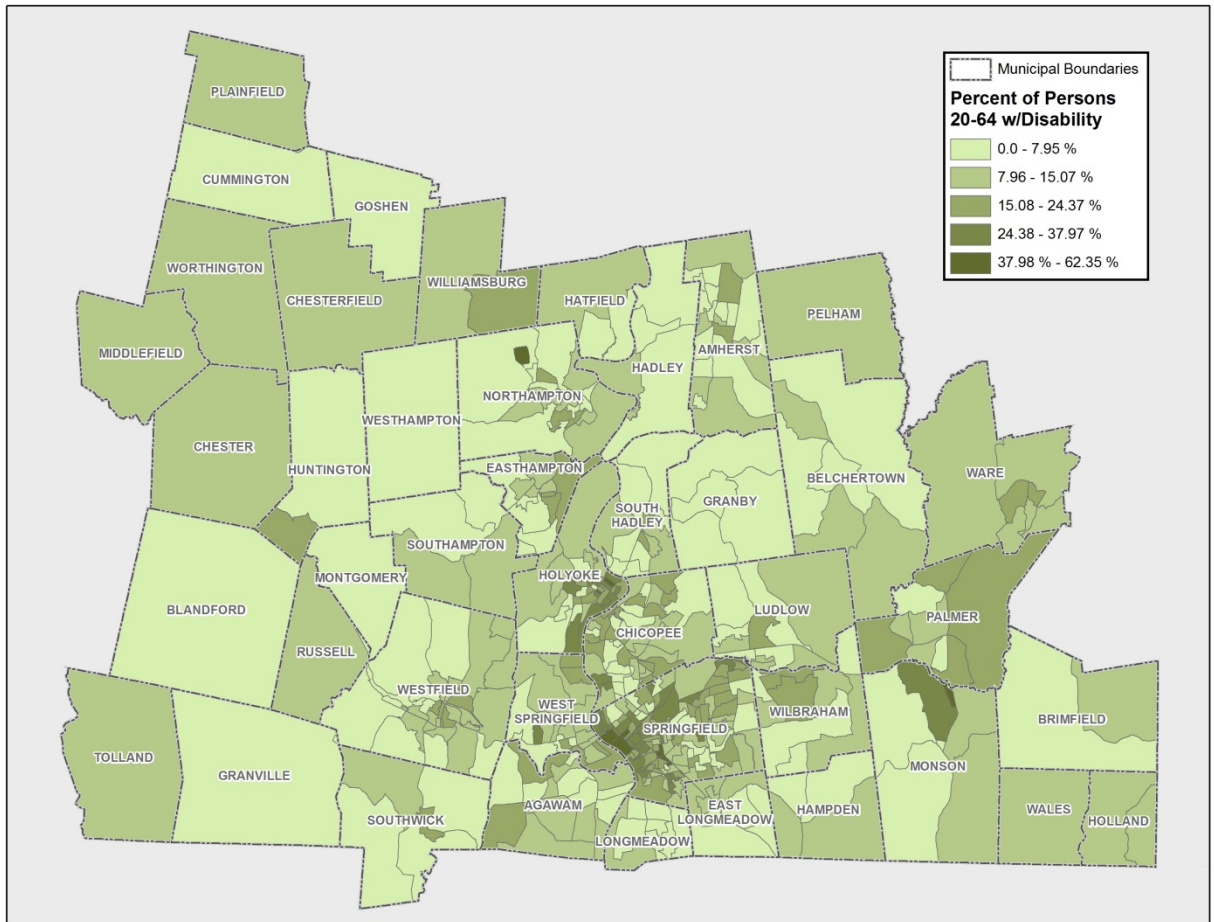
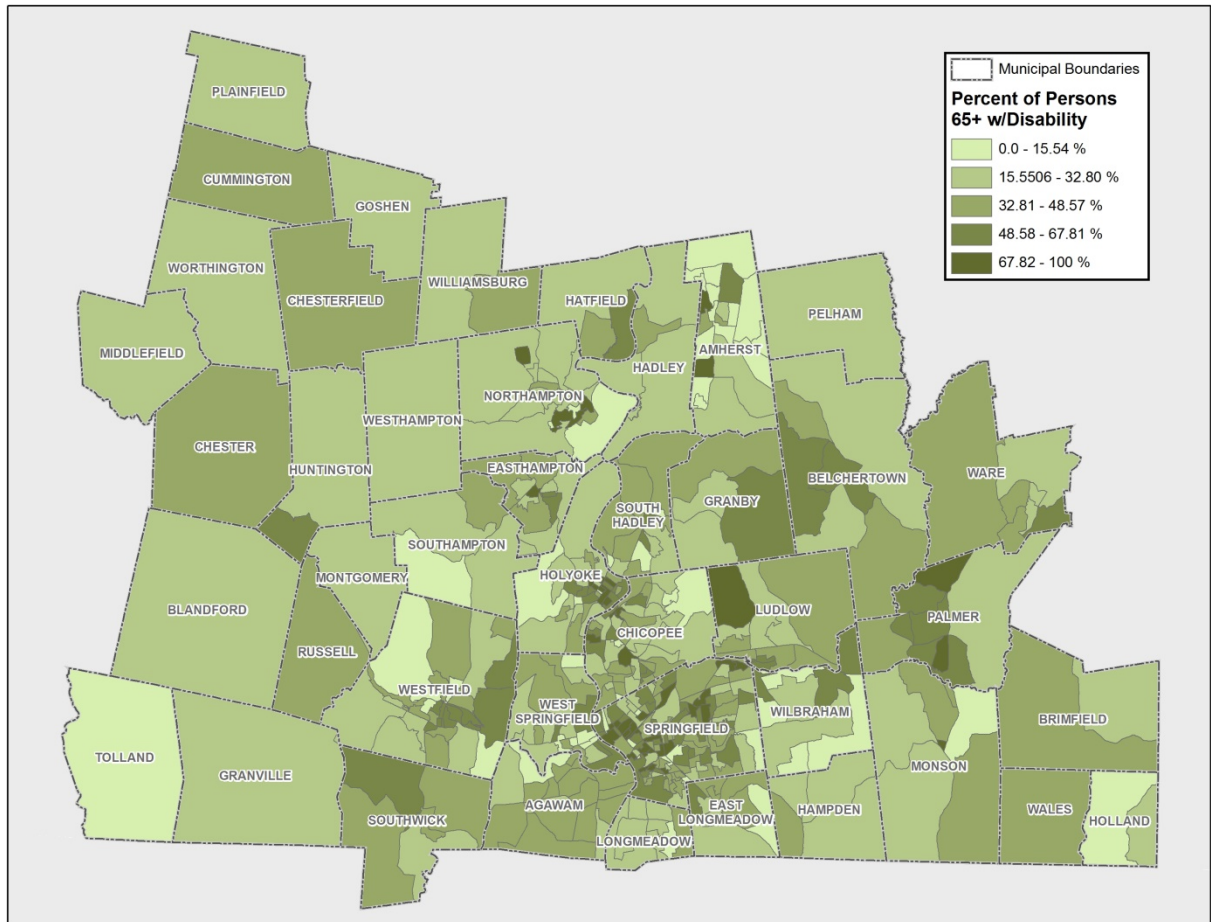


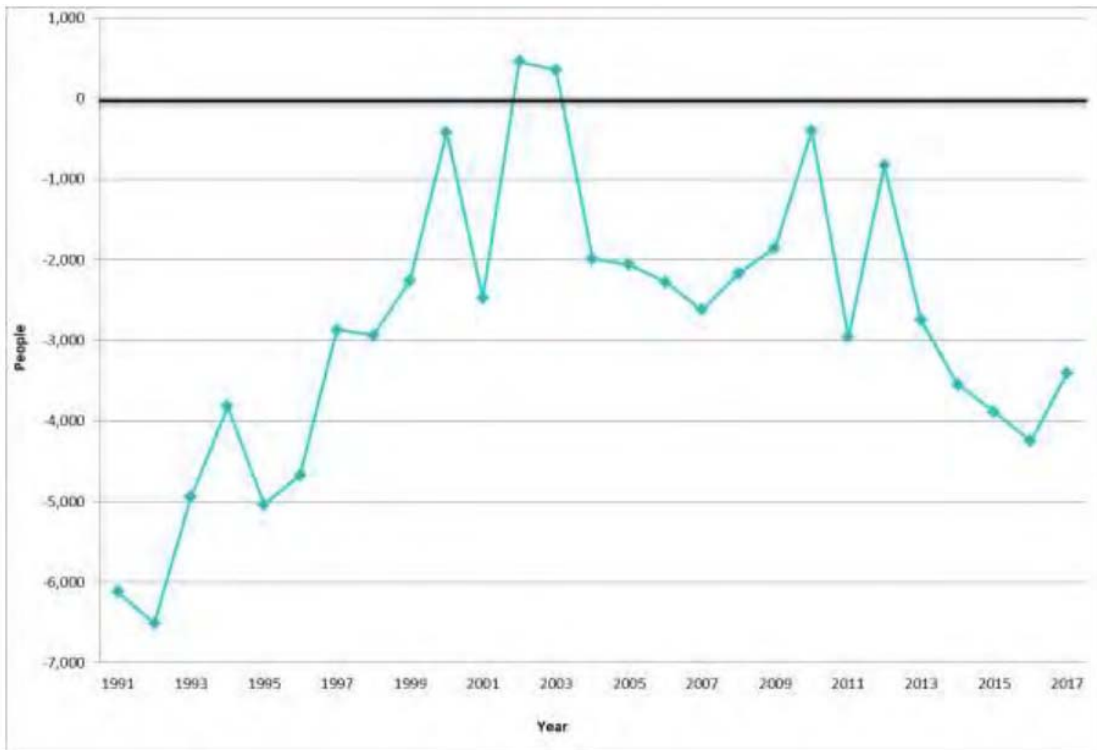
Figure 4-4 – Census Block Groups Individuals in the Pioneer Valley Age 65+ with Disabilities



1. Foreign Born Demographics and Migration

Retaining the population base has been a challenge in the Pioneer Valley region. Although trends of out-migration decreased between 1991 and 2002, it appears that this trend is reversing. During the recession of the 2000s when the housing market crashed, net outmigration decreased significantly, reflecting similar trends to those in previous economic downturns. However, net-out migration has been increasing steadily since then. In 2011, net out-migration was over seven times higher than in 2010. Although this trend reversed between 2016 and 2017, net out-migration in the Pioneer Valley region is overall on the rise.

Figure 4-5 – Net Domestic Migration in the Pioneer Valley Region



Source: U. S. Census Bureau Population Division, 2017

The Pioneer Valley has always been a destination for foreign immigrants and this continues to be the case. From 2000 to 2009 inclusive, a total of 13,656 new immigrants settled in the Pioneer Valley region. In fact, if not for foreign born immigration, the Pioneer Valley region would have experienced a net loss of population between 1990 and 2000. This trend of foreign immigration has continued since 2010, which has seen an additional 14,663 people immigrating to the region from another country.

E. CONSULTATION AND ACTIVE SOLICITATION OF PUBLIC PARTICIPATION

In accordance with state and federal law requirements, and to ensure inclusive and accessible public engagement processes for transportation decision making, the Pioneer Valley MPO developed a Public Participation Plan (PPP) to guide agency public participation efforts to include those populations that have been underserved by the transportation system and/or have lacked access to the decision-making process. The PPP guides the MPO in its efforts to offer early, continuous, and meaningful opportunities for the public to help identify social, economic, and environmental impacts of proposed transportation projects and initiatives. The Plan was developed in collaboration with MassDOT in 2016. The PPP defines how public

participation is incorporated into its transportation decision-making processes, and how the MPO ensures access for people with disabilities and the inclusion of low income and minority stakeholders.

Specifically, the PPP states the methods that MPO will use to reach out to persons who are low-income, minority, Limited English Proficient (LEP), or have a disability, and other traditionally underrepresented populations. Because different transportation decisions to be made require different techniques for reaching the public, this Plan provides a toolbox of techniques to be applied, as appropriate, to achieve effective participation.

The Public Participation program was developed around a process that includes outreach to representatives of the target populations. The Pioneer Valley Planning Commission has an ongoing working relationship with representatives of minority and low-income populations. The Plan for Progress, the Urban Investment Strategy Team, and the Welfare to Work Program and Regional Comprehensive Land Use Plan have created relationships with opened lines of communication into the needs and issues of minority and low-income populations.

Public participation as part of the 2020 Update to the RTP was conducted in accordance with the PPP. This included a 21 day public comment period, legal notices for public meetings in English and Spanish, a Spanish version of the online RTP survey, convening RTP related meetings in accessible locations, and the offer of language assistance and translated documents upon request.

1. Methods to Engage Populations in the Planning Process

Many neighborhoods in Pioneer Valley Region receive a high influx of immigrant populations from a wide range of nationalities. PVPC staff develop and employ a strategic public engagement process with an open approach to engage, inform and involve ethnically diverse neighborhoods in the decision making process.

PVPC's guiding principles in this public engagement process include:

- **Promote Respect:** All transportation constituents and the views they promote should be respected. All feedback received should be given careful and respectful consideration. Members of the public should have opportunities to debate issues, frame alternative solutions, and affect final decisions.
- **Provide Proactive and Timely Opportunities for Involvement:** Avenues for involvement should be open, meaningful, and organized to let people participate comfortably, taking into consideration accessibility, language, scheduling, location and the format of informational materials.

Meetings should be structured to allow informed, constructive dialogue, be promoted broadly and affirmatively; and be clearly defined in the early stages of plan or project development. Participation activities should allow for early involvement and be ongoing and proactive, so participants can have a fair opportunity to influence PVMPO decisions.

- **Offer Authentic and Meaningful Participation:** The MPO should support public participation as a dynamic and meaningful activity that requires teamwork and commitment at all levels. Public processes should provide participants with purposeful involvement, allowing useful feedback and guidance. Participants should be encouraged to understand and speak with awareness of the many competing interests, issues, and needs that lead to transportation ideas and projects.
- **Provide a Clear, Focused, and Predictable Process:** The participation process should be understandable and known well in advance. This clarity should be structured to allow members of the public and officials to plan their time and use their resources to provide input effectively. Activities should have a clear purpose, the intended use of input received made clear, and all explanations described in language that is easy to understand.
- **Foster Diversity and Inclusiveness:** The MPO should proactively reach out to and engage people with disabilities, as well as low-income, minority, limited English proficient disabled and other traditionally underserved populations.
- **Be Responsive to Participants:** PVMPO meetings should facilitate discussion that addresses participants' interests and concerns. Scheduling should be designed to meet the greatest number of participants possible and be considerate of their schedules and availability.
- **Record, Share and Respond to Public Comments:** Public comments, written and verbal, should be given consideration in the MPO decision making processes and reported in relevant documents.
- **Self-evaluation and Plan Modification**

F. EQUITY ASSESSMENT MEASURES

1. Equity Assessment Strategies

Title VI and the executive orders of Environmental Justice call for programs that quantify the benefits and burdens of the transportation investments and evaluate the impacts for different socio-economic groups. To accomplish this task PVPC worked with the JTC to establish measures of effectiveness that would reflect quantifiable transportation expenditures in the Region. These measures were used to evaluate capital expenditures in the Regional Transportation Plan and Transportation Improvement Program and to evaluate transit service. The evaluations provide a barometer of the

distribution of resources and also assist decision-makers in achieving an equitable balance of in future years.

2. Equity Distribution Analysis

Information collected from census data, GIS, transit route inventory, and regional models was used to identify and assess transportation deficiencies, benefits, and burdens. The evaluation of each measure of effectiveness included the following:

a) Distribution of Transportation Investments in the Region

Past and proposed funding allocations for TIP projects were calculated for defined low income and minority populations. PVPC completed an inventory of projects included on the RTP and mapped these projects. GIS tools were used to determine the amount of transportation funds (including bridge projects) allocated to each population group and also compared these values to regional average allocations using census block group data. This analysis is also conducted annually for the Transportation Improvement Program. PVPC is also working to conduct analysis on other Title VI protected classes. The RTP analysis is presented in Tables 4-1 and 4-2.

Table 4-1 – Distribution of Projects in the RTP to Low Income Populations

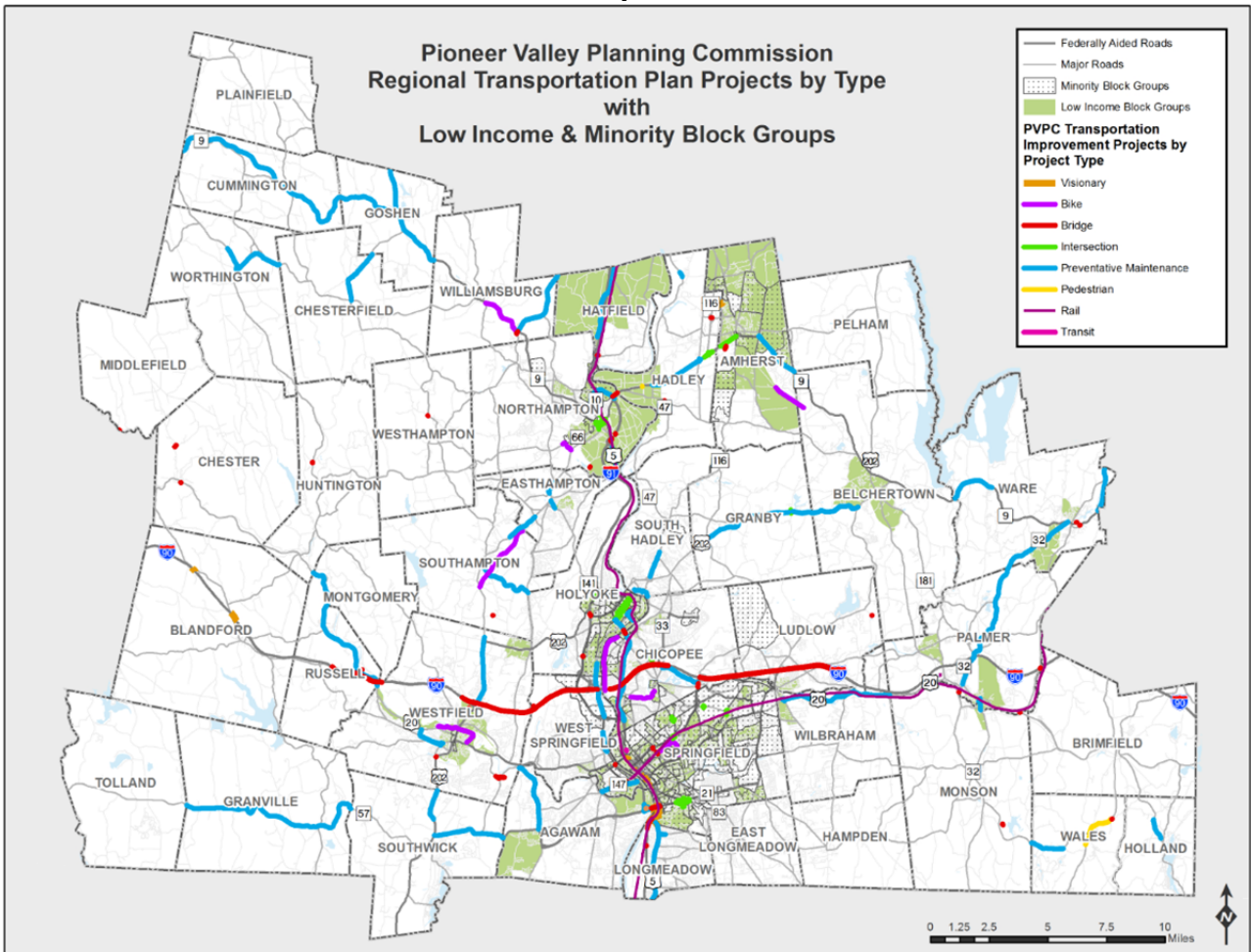
Low Income Equity Analysisi	PVPC T total	Low Income Block Groups	Other Block Groups	% PVPC T total in Low Income Block Groups	% PVPC T total in Other Block Groups
Transportation Analysis Zones (Block Groups)	442	158	284	35.75%	64.25%
Population	621570	207727	413843	33.42%	66.58%
Minority Population	171475	110607	60868	64.50%	35.50%
Number of Projects	113	51	62	45.13%	54.87%
Projects Not Funded	0	0	0	0	0
Projects	\$1,494,243,790	\$1,159,644,147	\$334,599,643	77.61%	22.39%
Total Project Dollars per Capita	\$2,403.98	\$5,582.54	\$808.52	2.32	0.34
Funded Projects per Capita	\$2,403.98	\$5,582.54	\$808.52	2.32	0.34

Table 4-2 – Distribution of Projects in the RTP to Minority Populations

Minority Equity Analysisi	PVPC T total	Minority Block Groups	Other Block Groups	% PVPC T total in Minority Block Groups	% PVPC T total in Other Block Groups
Transportation Analysis Zones (Block Groups)	442	163	279	36.88%	63.12%
Population	621570	212230	409340	34.14%	65.86%
Minority Population	171475	130808	40667	76.28%	23.72%
Number of Projects	113	36	77	31.86%	68.14%
Projects Not Funded	0	0	0	0.00%	0.00%
Projects	\$1,494,243,790	\$1,009,927,416	\$484,316,374	67.59%	32.41%
Total Project Dollars per Capita	\$2,403.98	\$4,758.65	\$1,183.16	1.98	0.49
Funded Projects per Capita	\$2,403.98	\$4,758.65	\$1,183.16	1.98	0.49

The analysis shows that 45.13 percent of projects on the RTP are located in low income block groups and that 31.86 percent of projects are located in minority block groups. The table also shows that 77.61 percent of funding was distributed to defined low income block groups compared to 67.59 percent to other block groups in the region.

Figure 4-6 – Distribution of Projects in the RTP to Low Income and Minority Populations



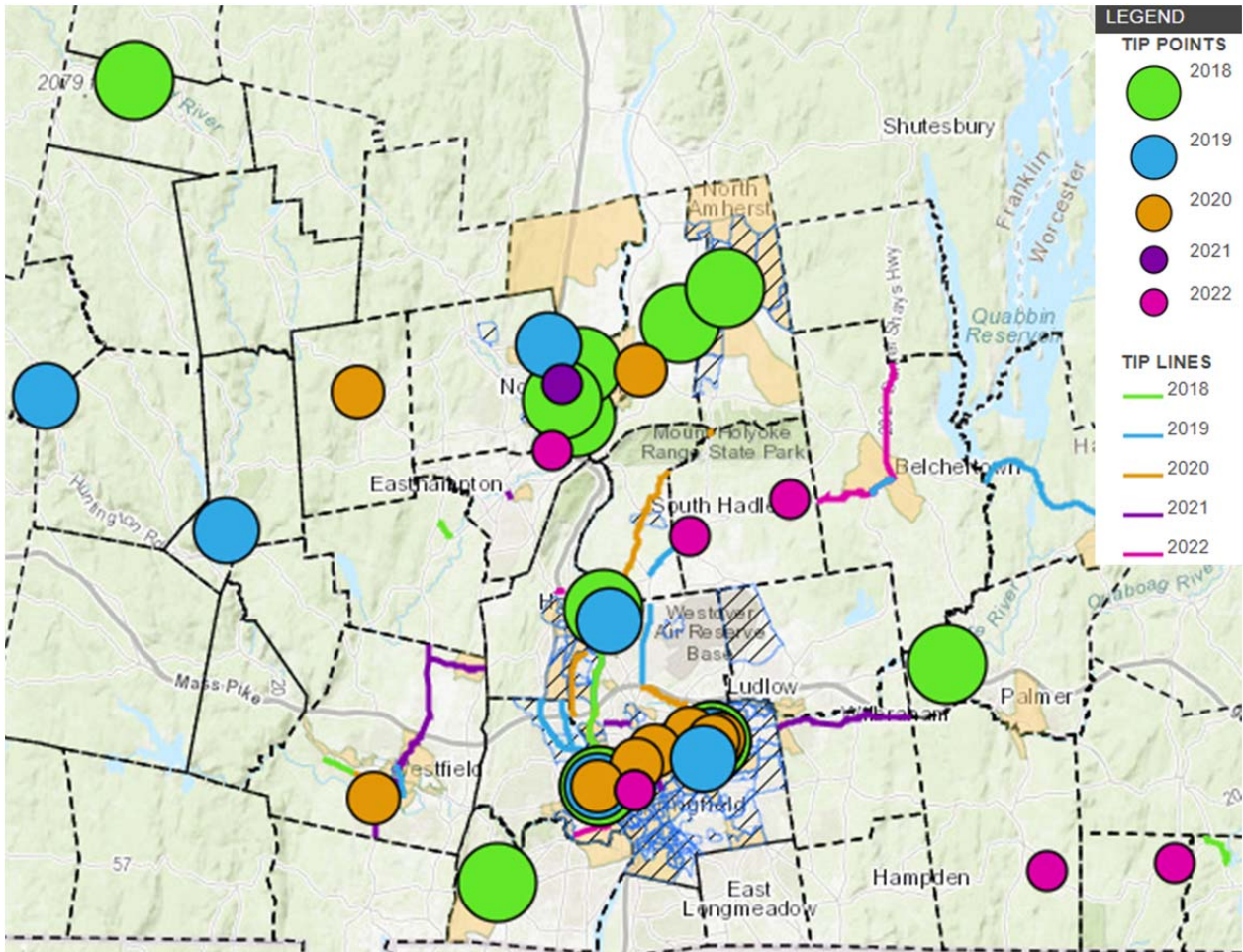
b) Annual Equity Assessment of Distribution of TIP Funding

PVPC conducted an equity assessment on the transportation planning tasks completed as part of previous UPWP's this assessment process has previously been used on the Regional TIP and identifies how regional transportation improvement projects have potential impacted defined minority and low-income block groups in the region. The following demographic map displays an overlay of federally funded projects from the Transportation Improvement Program (TIP) to minority and low income census block groups.

<http://pvpc.maps.arcgis.com/apps/StorytellingTextLegend/index.html?appid=f54bf3b6dfd04033980dcd9a898b85a3>

A complete table for all highway and transit projects included as part of the equity assessment is included in the RTP Appendix.

Figure 4-7 – Distribution of Transportation Projects



c) Attainability by Transit

The level of attainability by transit describes regional accessibility by low income, minority, and immigrant populations of the Pioneer Valley. These populations usually depend on local public transit to reach necessary regional amenities such as health care, food stores, education, employment, and housing. Other groups that likely depend on public transit are the elderly and disabled. These groups were mapped against the regional transit network.

This current analysis involves estimating travel times between major activity centers and residential locations of the study populations. Using census data, transportation analysis zones with percentages higher than that of the regional average for minority and low-income populations were identified. The location of major employers the Pioneer Valley region was mapped (Figure 4-8). Major employers were defined as businesses which have 50 or

more employees. Accessibility to transit was defined as being within a quarter of a mile from a bus route. The map shows transit connectivity in our region between major employers and residential locations of low-income and minority zones.

Attainability of goods and services by the low-income and minority groups is analyzed through a comparison between transit and auto-vehicle travel times. Most zones with a high percentage of minority groups also included a high percentage of low-income groups. Communities with high percentages in one of these two categories included Amherst, Northampton, Holyoke, Chicopee, Springfield, West Springfield, Westfield, Palmer, and Ware. Whereas, major employers were concentrated in Springfield, Holyoke, Amherst, and Northampton. (Figure 4-9)

The Pioneer Valley MPO will continue to assess transit travel needs in the region and update this analyses to revise travel times due to changes in bus service times and frequencies. In response to budgetary challenges faced by the regional transit authority due to level funding while costs increased, a change in transit services and fees were deemed necessary. A recent service changes and fare increase analysis study was concluded in 2017 and many of its recommendations have been implemented by September 2018. Changes in bus service since the last RTP 2016 update include a variety of frequency and service hours reductions, combining of existing bus routes, as well as a few discontinuations or modifications to low performing routes. Most of the newer cross town routes introduced in 2014 following the recommendations of the comprehensive system analysis study, were retained. System wide weekend service reduction to Saturday service levels to match Sunday service levels resulted in some Saturday service elimination. The 2018 system changes to transit service will negatively affect attainability by transit due to longer wait time between buses and narrower service windows.

Four scenarios were selected to analyze transit attainability of individuals living in low-income and minority zones. These scenarios represent examples of the regional travel needs of our low-income and minority groups and their associated travel time expenditures. However, these examples are not exhaustive of all regional travel needs. The following four scenarios represent various travel needs across the region. They cover long, medium, and short distance travel to services and activity centers within our region.

- i) Travel between Amherst and Springfield represents the furthest destination in the region between zones of higher minority and low-income rates. These two destinations are important activity centers in our region that provide several opportunities for education,

employment and entertainment. Springfield additionally provides opportunities for health and other state aid services. Depending on time of day, a transit traveler between these two locations will spend between 100 to 120 minutes each way using three or two different buses: (B43, B48, and P21) or (R29, and P21). Therefore, a two hour appointment at Baystate Medical Center would necessitate at least a four hour round trip by public transit. In comparison, the same trip by private auto may take 40 minutes each way, a third of the time it takes to travel by bus. This is due to the number of stops en route and the additional time associated with waiting to transfer between buses. In this scenario, public transit offers an alternative to the personal automobile as a travel mode, but at a higher time cost. This may be the only travel mode available for low-income and minority groups who cannot afford auto ownership or are unable to drive for other reasons. Other options like the intercity motor coach carrier or cabs can be cost prohibitive. Public transit bus ticket costs \$1.5 each way. Whereas, a bus ticket for the motor coach run by the PeterPan Bus company would cost \$9. A ride with Uber costs around \$34, while a cab ride costs around \$65. This means that the round trip by these three modes of travel would cost \$3, \$18, \$68, \$130 respectively. The cost disparity between the three options makes public transit the only viable alternative for the population under study.

- ii) Travel between low-income housing in Northampton and state health service providers or employment centers in Holyoke represents a medium length regional travel trip for the population under study. Depending on time of day, a trip between these two locations takes about an hour on average using two buses: R42 or R44 then B48. This is twice as long as it takes to travel by car. In this case, a two-hour appointment would necessitate an additional one-hour time expenditure for travel by bus compared to auto.
- iii) Travel between Springfield and major employers at the Holyoke Mall and the adjacent industrial park in Holyoke represent short length travel trips in the region. A Springfield resident seeking employment in the service and retail industry in Holyoke would spend 30 minute on average to commute by bus. Due to the short distance traveled between the two locations, travel time is lower between the two activity centers in this scenario compared to the previous two scenarios. Yet, travel time by bus is three times as long as travel by car.
- iv) Within a large city such as Springfield, a trip to the supermarket from Mason Square takes an average of 30 minutes by bus whereas it takes half of that duration by car.

Public transit provides an important connecting service between major activity centers and residential locations for low-income and minority populations in the Pioneer Valley. The various bus routes connecting these zones have different levels of service ranging from regular to limited on weekdays, weekends, and during academic seasons. Several of the bus routes run on reduced schedule during the summer and the colleges' No School periods. The complexity of the bus route system requires further in-depth analysis to identify transit connection challenges due to schedule and service availability between all identified zones. Transit attainability can be further analyzed in conjunction with Level of Service for all bus routes. Updates to this analysis are required whenever major bus routes changes occur. Many route changes have been implemented during the past year to address budget deficit by the Transit Authority due to level funding by the state and increased costs of operation. Level of Service categories were identified for each of the bus routes in the Pioneer Valley service area ranged from 6 being best to 1 being worst (Table 4-3).

The methodology used to rank the level of service of bus routes includes calculating trip frequency of each bus route during weekdays and weekends. Most bus routes offer service during regular business hours and provide service coverage for 12 hours on weekdays. Some routes provide limited weekend service as well. Regular business hour service is assumed to be from 6am to 6pm. The number of service trips provided by a bus leaving its starting point towards its main destination is divided by 12 to calculate the bus route's service rate (number of trips per hour). The trip rate is then adjusted to incorporate any additional service provided after regular business hours. An adjustment factor is calculated by counting the number of trips occurring at 6pm and beyond then dividing that number by 12. Some bus routes offer service on Saturdays while others offer service on both Saturdays and Sundays. Therefore, another adjustment factor is required for the trip rate. An addition of bus service for one day out of the seven days of the week is factored as $1/7 = 0.14$. This factor is added to represent each Saturday or Sunday service. The total bus route trip rate includes the sum of all four measures: business hours weekday trip rate, after business hours weekday trip rate, Saturday service factor, and Sunday service factor. The majority of bus routes provided by the Regional Transit Authority service were analyzed according to this methodology. The calculated total trip rates ranged from 0.5 to 5.6. A constant value of 0.5 was added to all totals to arrive at the current ranking integers ranging from 6 best to 1 lowest Level of Service.

Figure 4-8 – Transit Access to Major Employers for Zones of High Percentages of Minority and Low-Income Populations

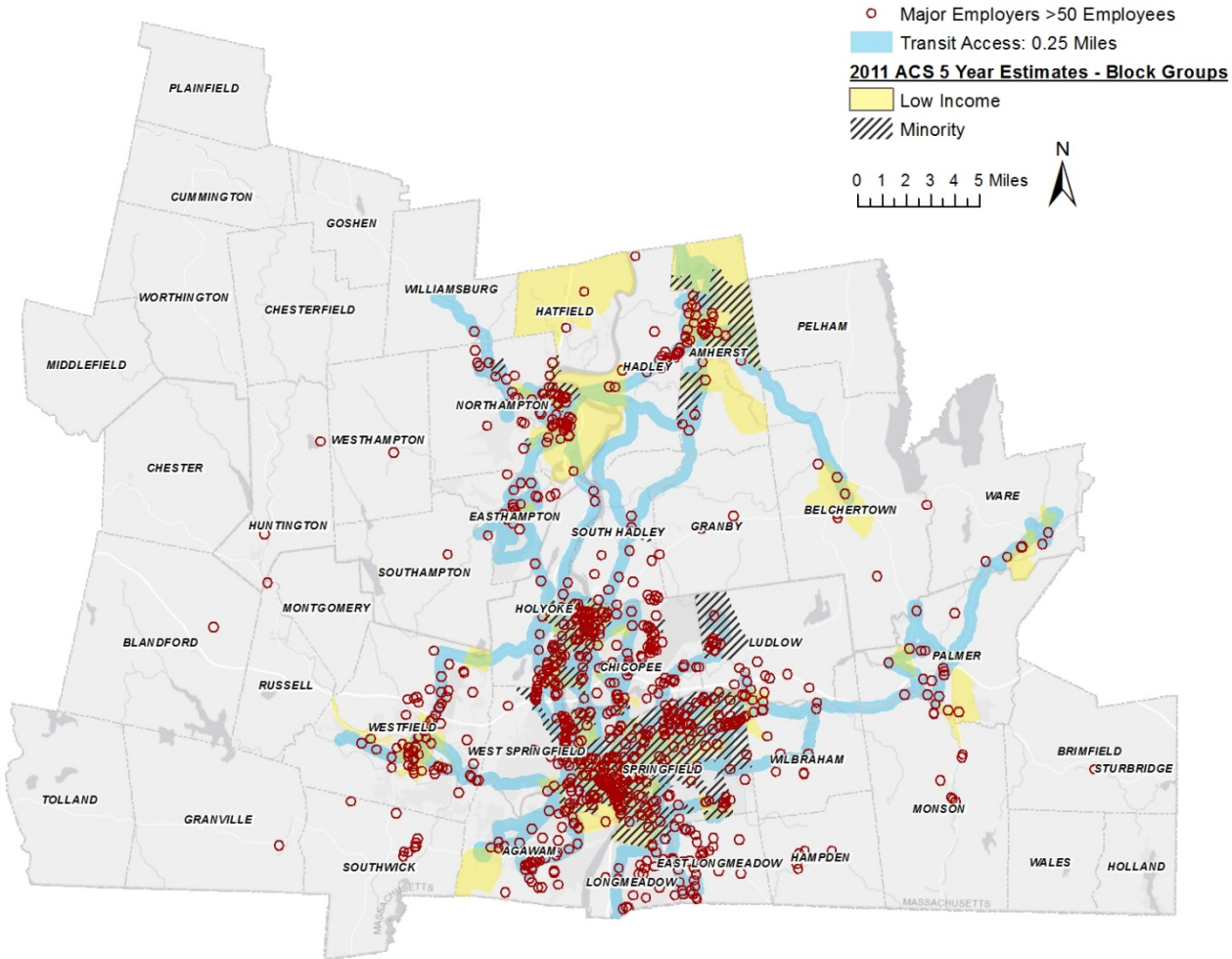
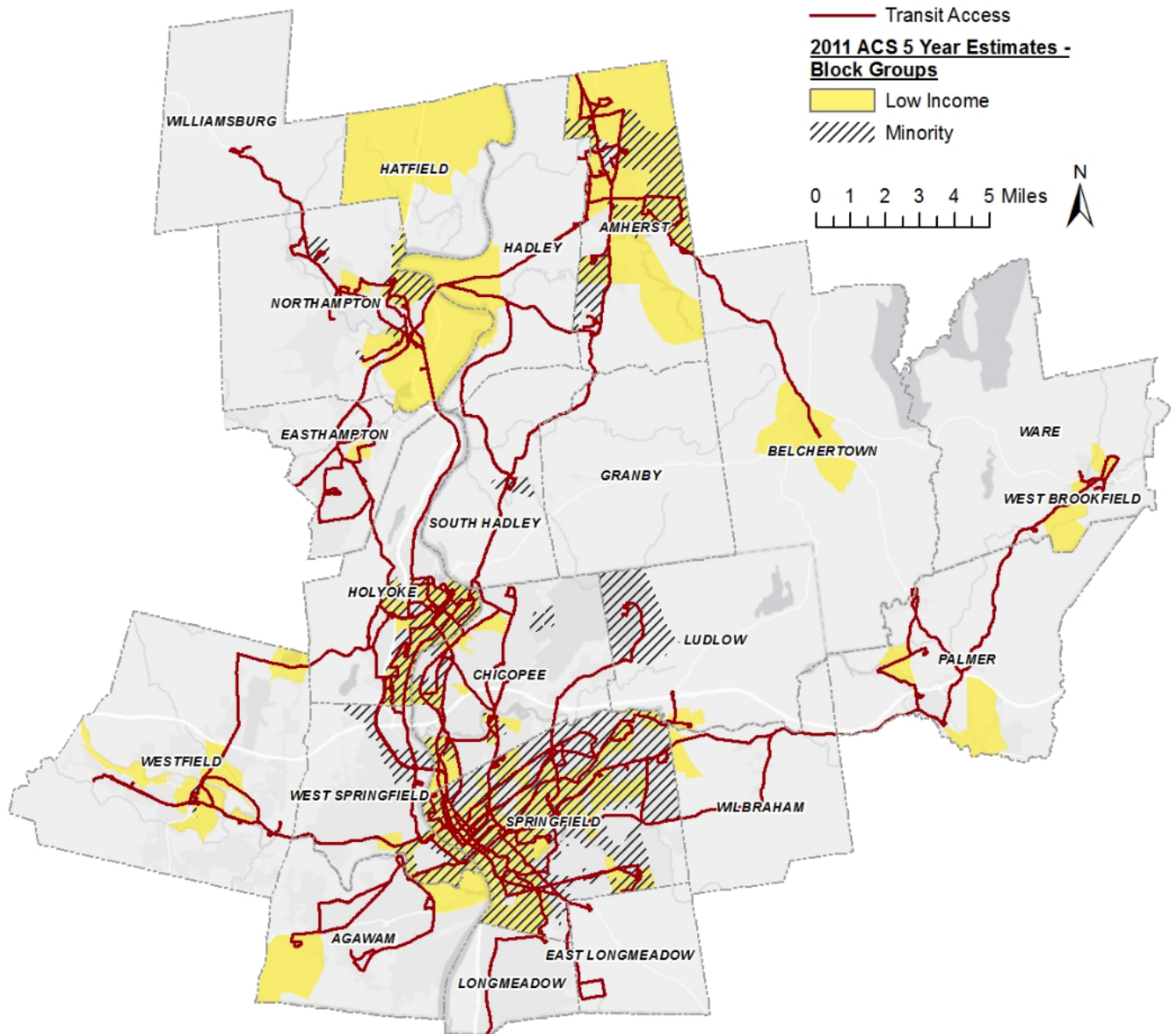


Table 4-3 – Evaluation of Transit Service by Route

Route	Level of Service Rank (6-1) Highest to Lowest Level of Service	Service Area
G30	3, 6	Amherst
P31	3, 6	Amherst
B7	6	Springfield
B35	6	Amherst
B34	5	Amherst
G1	5	Springfield
P20	4	Holyoke/West Springfield/Springfield
G2	4	Springfield
B6	4	Springfield
B43	3, 4	Northampton/Hadley/Amherst
P38	4	Amherst/ South Hadley
X90	3	Holyoke/Chicopee/Springfield
P21	3	Springfield/Chicopee/Holyoke
OWL	3	Westfield
G3	3	Springfield
P39	3	Northampton/Hadley/South Hadley
R10s	3	Westfield
R10	2	Westfield/West Springfield/Springfield
B48	2	Northampton/Holyoke
B33	2	Amherst
B4	2	Springfield
R14	2	Agawam/West Springfield/Springfield
G5	2	Longmeadow/Springfield
B17	2	Springfield
P21e	2	Holyoke/Springfield
R44	2	Northampton
R42	2	Northampton/Williamsburg
P11	2	Holyoke/Springfield
R41	2	Northampton/Easthampton/Holyoke
X92	2	Springfield
G36	2	Amherst
B23	2	Holyoke/Westfield
LOOP	2	Springfield
R29	1	Holyoke/South Hadley/Amherst
R24	1	Holyoke
P39e	1	Northampton/South Hadley
NE	1	Easthampton/Northampton
P20e	1	Holyoke/Springfield
G45	1	Belchertown/Amherst
B12	1	Ludlow/Springfield
WP-C	1	Ware/Palmer
S	1	Northampton
WP-E	1	Ware/Palmer/Springfield
G46	1	South Deerfield/Sunderland/Amherst
	Operates during school breaks only	No service during school breaks
	Reduced service during school breaks	

Figure 4-9 – Attainability by Transit for Low Income and Minority



The six previously identified communities that contain a high percentage of low-income and minority populations in our region are serviced by transit routes of varying levels of service. In general, shorter trips between two adjacent locations can maintain a high level of service throughout the day. On the other hand, longer trips connecting three or more locations are subject to a combination of levels of service from each of the connecting transit routes. This can result in a lower overall level of service due to travel constraints posed by the lowest level of service

category of a trip segment. Whenever a bus route schedule includes variations in frequency and coverage during summer or "No School" season, the reduced schedule is entered into the analysis because most transit users continue to travel to work and other destinations regardless of season. This is an important factor to keep in mind when analyzing the overall transit attainability of individuals living in these locations because it affects their ability to engage in activities, acquire needed services, or seek employment.

The following tables analyze the effects of various levels of service on transit trips between the five identified locations: Amherst, Northampton, Holyoke, Chicopee, Springfield, and West Springfield (Tables 4-4 – 4-9). Each table looks at all transit options, including local and express routes, connecting each location as an origin of a trip to the other five destinations. Such information is indicative of the overall accessibility via transit.

Average travel time spent along each route to complete a trip is also of interest. Travel times durations may fluctuate at varying times of the day or days of the week due to variations in schedules. Variation in a route schedule can increase wait time between bus connections. There is also the potential increase in travel time due to traffic congestion on certain portions of the route during lunch time, on Friday afternoon, and other traditional rush hour times. This makes taking a bus trip more time efficient during certain times of the day or on certain days of the week. While this complexity is difficult to analyze, calculating an average travel time between the identified origins and destinations will help reveal the need for schedule or service changes to improve attainability by transit.

Table 4-4 – Travel Service between Origins and Destinations for Amherst

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
Amherst	Northampton	B43	3	3
Amherst	Holyoke	B43/B48	3,2	2
		R29	1	1
Amherst	Chicopee	B43/B48/P21	3,2,4	2
		B43/B48/X90	3,2,3	2
		R29/X90	1,3	1
Amherst	Springfield	B43/B48/P20	3,2,3	2
		B43/B48/P21	3,2,3	2
		B43/B48/P21E	3,2,2	2
		R29/P21	1,3	3
Amherst	W. Springfield	B43/B48/P20	3,2,4	2

Table 4-5 – Travel Service between Origin and Destinations for Northampton

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
Northampton	Amherst	B43	3	3
Northampton	Holyoke	B48	2	2
Northampton	Chicopee	B48/X90	2,3	2
		B48/P21	2,3	2
Northampton	Springfield	B48/P20	2,3	2
		B48/P21	2,3	2
		B48/P21E	2,2	2
		B48/X90	2,3	2
Northampton	W. Springfield	B48/P20	2,4	2

Table 4-6 – Travel Service between Origins and Destinations for Holyoke

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
Holyoke	Amherst	B48/B43	2,3	2
		R29	1	1
Holyoke	Northampton	B48	2	2
Holyoke	Chicopee	X90	3	3
		P21	3	3
Holyoke	Springfield	X90	3	3
		P20	4	4
		P21	3	3
		P21E	2	2
Holyoke	W. Springfield	P20	4	4

Table 4-7 – Travel Service between Origins and Destinations for Chicopee

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
Chicopee	Amherst	P21/R29	3,1	1
		X90/R29	3,1	1
		P21/B48/B43	3,2,3	2
		X90/B48/B43	3,2,3	2
Chicopee	Northampton	P21/B48	3,2	2
		X90/B48	3,2	2
Chicopee	Holyoke	P21	3	3
		X90	3	3
Chicopee	Springfield	P21	3	3
		X90	3	3
		G1	5	5
Chicopee	W. Springfield	G1/P20	5,4	4
		G1/R10	5,2	2
		X90/G3/R10	3,3,2	2
		X90/G3/P20	3,3,4	3
		X90/B7/R10	3,6,2	2
		X90/B7/P20	3,6,4	3

Table 4-8 – Travel Service between Origins and Destinations for Springfield

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
Springfield	Amherst	P20/B48/B43	4,2,3	2
		P21/B48/B43	3,2,3	2
		P21/R29	3,1	1
Springfield	Northampton	P20/B48	4,2	2
		P21/B48	3,2	2
		P21E/B48	2,2	2
Springfield	Holyoke	P20	4	4
		P21	3	3
		P21E	2	2
		X90	3	3
Springfield	Chicopee	X90	3	3
		G1	5	5
		P21	3	3
Springfield	W. Springfield	P20	4	4
		R10	2	2

Table 4-9 – Travel Service between Origins and Destinations for West Springfield

Origin	Destination	Bus Number	Route Level of Service	Trip Level of Service
W. Springfield	Amherst	P20/B48/B43	4,2,3	2
		P20/R29	4,1	1
W. Springfield	Northampton	P20/B48	4,2	2
W. Springfield	Holyoke	P20	4	4
W. Springfield	Chicopee	P20/P21	4,3	3
		P20/X90	4,3	3
		R10/P21	2,3	2
W. Springfield	Springfield	P20	4	4
		R10	2	2

TAZ's that have a proportion of seniors that exceeds that of the regional average are highlighted by the yellow color in the following Figure. Communities with areas that do not fall within 3/4 of a mile from transit route while housing more seniors compared to the region as whole include: Hadley, Hatfield, Westfield, Granby, Ludlow, Wilbraham (Figure 4-10).

The proportion of residents who are disabled is mapped according to two age categories. The first group combines all disabled residents of working age between ages of 20 to 64 years old. Figure 4-11 shows that zones with higher proportions of working aged disabled persons are serviced by the regional fixed route buses. On the other hand, some of the zones with disabled elderly, 65 and over, are not

serviced by the regional fixed route transit network. Those areas are located in the communities of Hatfield, Granby, and Westfield.

Figure 4-10 – Attainability by Transit for the Elderly

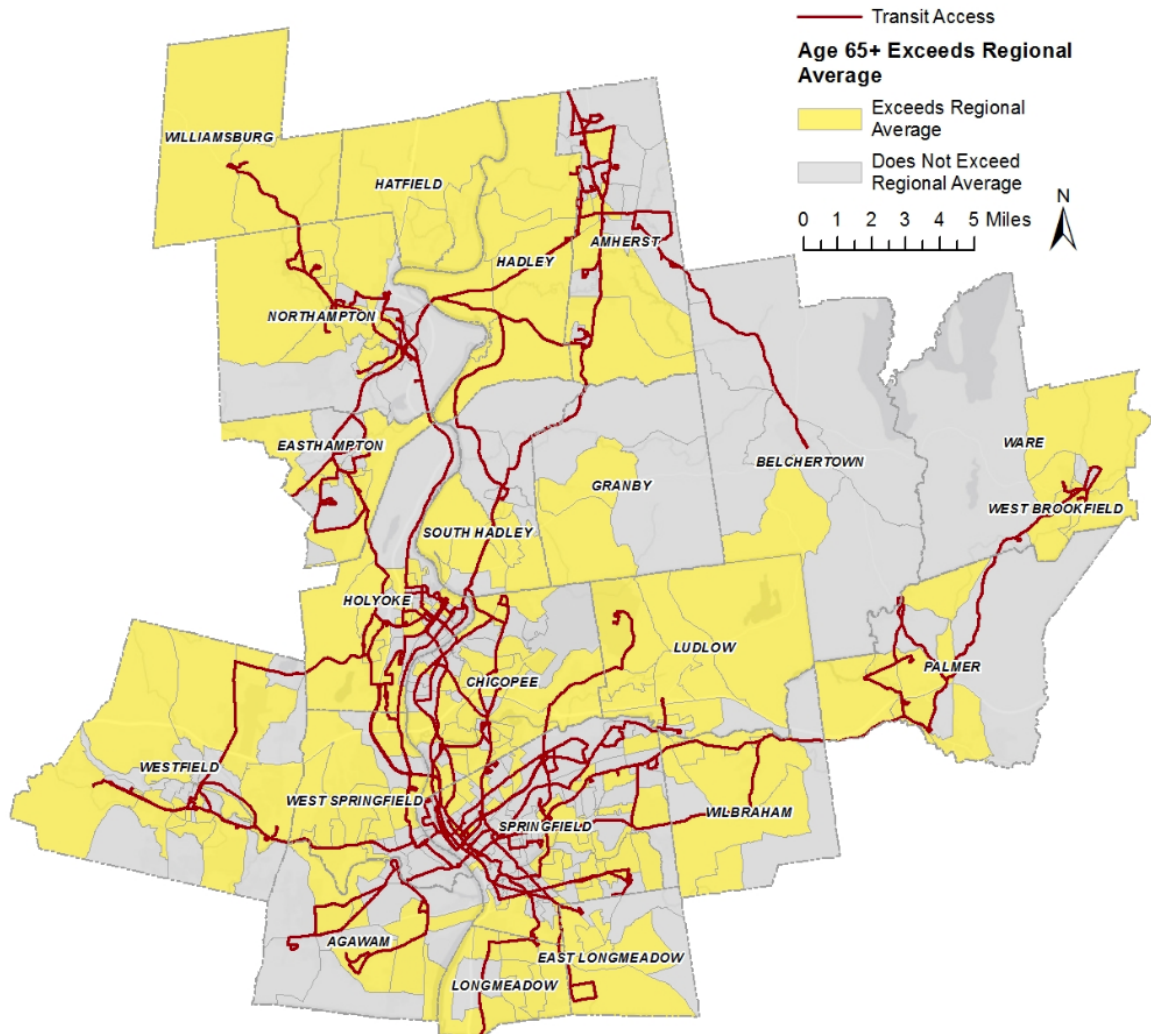


Figure 4-11 – Attainability by Transit for the Disabled Working Age Group

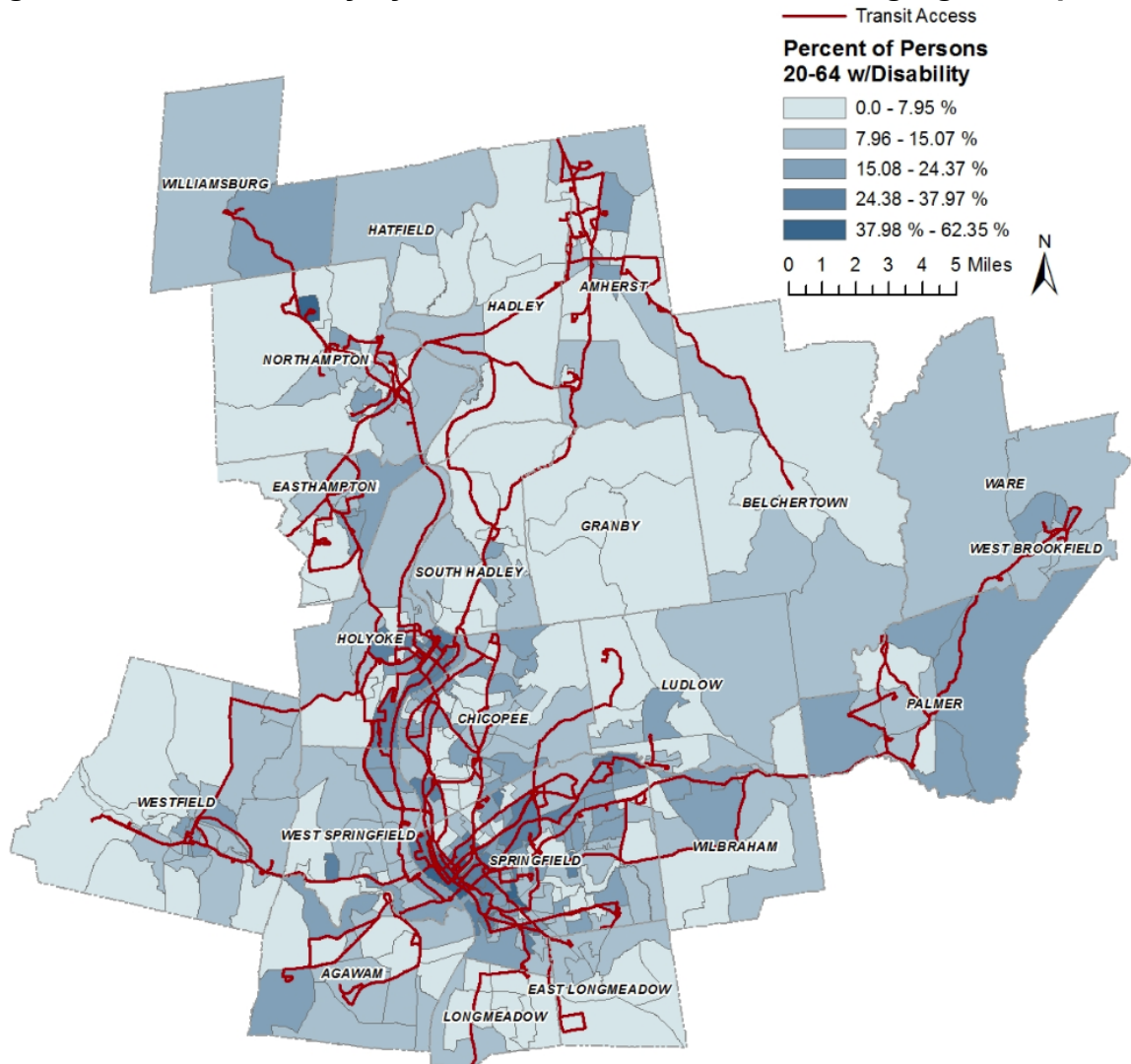
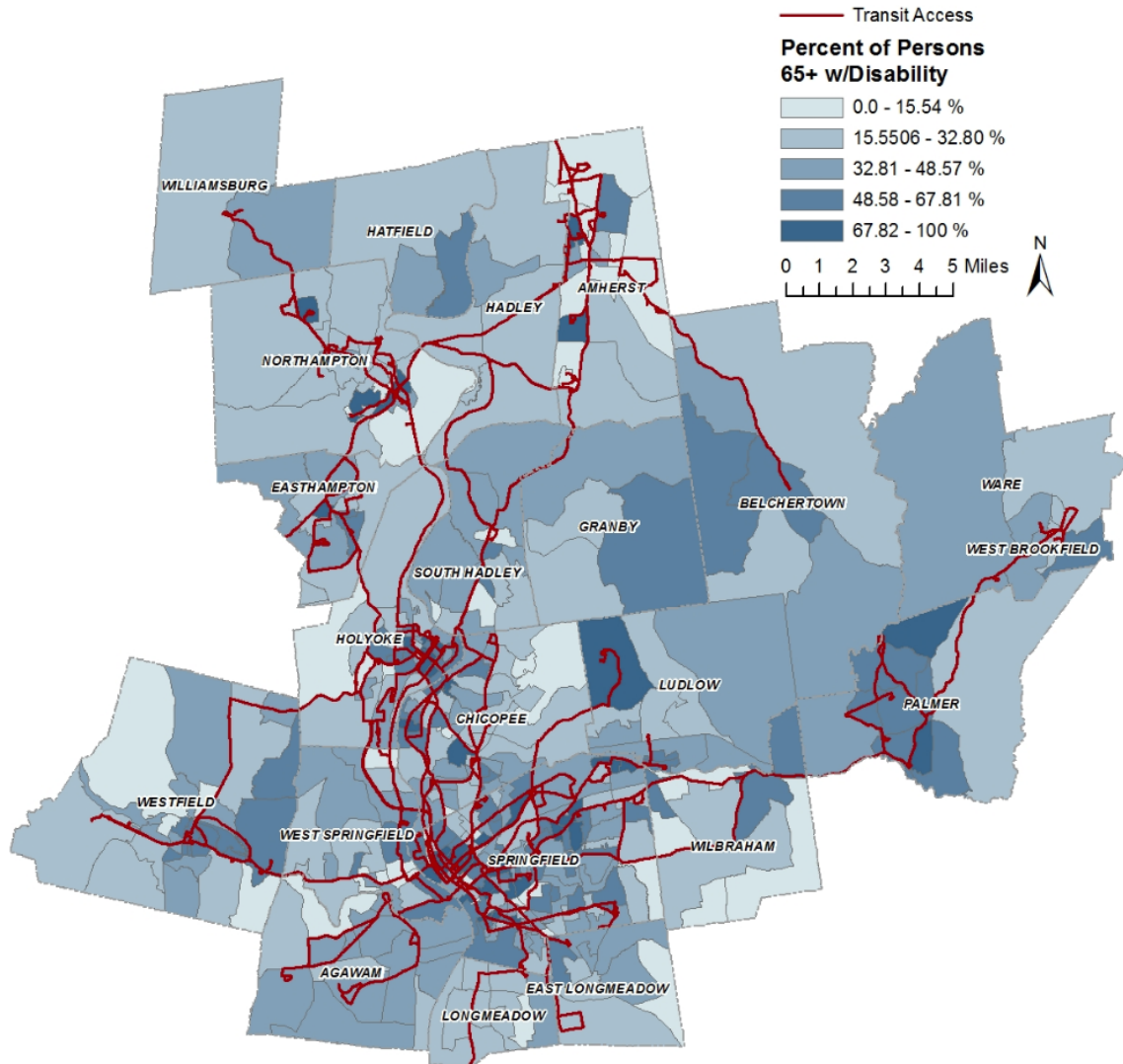


Figure 4-12 – Attainability by Transit for the Disabled Elderly



d) Equity Analysis of PVTA Comprehensive Fare/Service Changes

In 2018 PVPC conducted an equity analysis of proposed changes to the PVTA transit service in the region. This service equity analysis was prepared to meet the requirements of Title VI of the Civil Rights Act of 1964 in 49 CFR Section 21.5(b)(2), 49 CFR Section 21.5(b)(7), and Appendix C Section 3 to 49 CFR part 21, and in accordance with the guidance in Federal Transit Administration Circular 4702.1B of October 1, 2012.

Changes to PVTA's fixed route bus services were necessary to reduce operating costs and balance the agency's FY2019 budget. The equity analysis was designed to determine whether proposed service changes would have a discriminatory impact with regard to race, color, income, or national origin. A demographic analysis of PVTA customers affected completed to determine whether or not there are adverse or disproportionate burdens on minority or low-income populations in the PVTA service area, as well as the types of measures that are likely to be effective and appropriate in mitigating adverse impacts on those transit customers.

A separate Title VI Fare Equity Analysis was completed and presented to the PVTA

Advisory Board in April 2018 as required by federal guidelines and PVTA policies.



Service Equity Analysis for FY2019 Service Change Proposals



Prepared by the
Pioneer Valley
Planning Commission
04/06/18

e) Distribution of UPWP Tasks

PVPC conducted an equity assessment on the transportation planning tasks completed as part of previous UPWP efforts. UPWP tasks are an important barometer as they provide assistance to Towns that might not have the resources to complete the task and also because the planning studies and reports generated through UPWP task can result in recommendations that prepare a project for future development. For this assessment process work plans from the previous eleven years were reviewed to identify the transportation planning tasks that were completed for each of the 43 communities in the PVPC region. Tasks included data collection, planning studies, local technical assistance requests, and regional activities such as the update to the TIP or CMP. All total, nearly 970 tasks were identified over the five year period. While the total number of projects for each community is often a function of the size of the community, at least on task was completed for each community over the five year period. This information is summarized in the Table 4-10.

Table 4-10 – Distribution of UPWP Task by Community by Year

Community	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020*	Total
Agawam	2	2	2	1	3	1	3	5	5			24
Amherst	4	2	4	4	1	1	1	2	2			21
Belchertown	1	3	1		1	3	2	2	2			15
Blandford	1	1		1		1					1	5
Brimfield		2	3	2	1			1	3	1		13
Chester	1	2	1	1	1			3	1			10
Chesterfield	1						1		1			3
Chicopee	4	1	3	3	3	3	1	2	3	1		24
Cummington	1		1		1		1	1	2	1		8
East Longmeadow	2	2		1	1	1	1	3	3	1		15
Easthampton	3	3	2	1	3	1	1	5	4			23
Goshen	1	1	1		1	1	1	1	2	1		10
Granby		2		3				1			1	7
Granville		1	1	1	1		1		3	1		9
Hadley	1	3	4	2	1	2	1	2	2		1	19
Hampden	1		2		1		1	1	1		1	8
Hatfield				1			1					2
Holland	1	1				1	2	1	2			8
Holyoke	3	5	6	3	3	3	6	6	4	1		40
Huntington	1	1	1	2	1		1		1			8
Longmeadow	3		1	4	2	1	4	2	1	1		19
Ludlow	7	1			2		1	2				13
Middlefield		1										1
Monson	1	1		1				1	1		1	6
Montgomery			1	2	1			1				5
Northampton	7	6	5	7	3	4	5	6	6			49
Palmer	1					3	3	2	2			11
Pelham	1	1		1				1				4
Plainfield	1	1	1	1	1				1	1		7
Region Wide	38	29	33	34	28	30	26	24	26	25	25	318
Russell	1	1	1	1		1						5
South Hadley	3	1	2	4	3	2	1	4	2			22
Southampton	1	1	2	1		1	2	1	1			10
Southwick	6	2	1	2	3	1	2	3	1		1	22
Springfield	8	12	10	6	6	10	14	11	8	3		88
Tolland			1	1	1		1	1	2			7
Wales			1	1			1	2	2			7
Ware	5	2	1	2	2	3	2	2	1		1	21
West Springfield	4	3	2	2	1	1	3	9	2			27
Westfield	1	1	3	3	1		2	5	6			22
Westhampton	2			1	1			1				5
Wilbraham	1		1	1	1		2	1	4			11
Williamsburg	1		3	1	1	1	2	1	2			12
Worthington	1						1	1	2	1		6
Grand Total	121	95	101	102	80	76	97	117	110	38	32	970

3. Pioneer Valley Language Access Plan and Analysis of Language-related U.S. Census Data

The Pioneer Language Access Plan (LAP) Plan was developed by the Pioneer Valley Planning Commission (PVPC) in consultation with FHWA, FTA and MassDOT. The plan describes the strategic approach that PVPC is pursuing to achieve its program to better engage people who are Limited English Proficient (LEP) in metropolitan transportation planning activities. PVPC's goal is to ensure that LEP persons have meaningful access to the public involvement process for PVMPO activities. This LAP Plan clarifies PVMPO's responsibilities with respect to LEP requirements as a recipient of federal financial assistance from the U.S. Department of Transportation to people who are Limited English Proficient.

The Pioneer Valley Metropolitan Planning Organization (PVMPO) is committed to making the metropolitan transportation planning process as accessible as possible to all people who live within the region. The PVMPO programs the transportation projects that utilize federal and state sources of operating assistance for transit, as well as and capital assistance for transportation and transit projects. Support for LEP outreach and related services are integrated with the planning and development of these projects. The PVMPO actively works to identify programs, activities, and services provided by the MPO that are of importance to the general public, and take reasonable steps to overcome language barriers to these, at no cost to the limited English proficient (LEP) individual. The MPO currently strives to accomplish the following:

- Translate our most vital documents into Spanish, including our notice of civil rights, compliant procedures, and complaint form. We will make a concerted attempt translate any of these documents into other languages upon request.
- Provide flyers, meeting notices, and other announcements in the languages spoken in the affected area.
- Offer to translate meeting materials, upon request.
- Post notices in non-English community newspapers when appropriate.
- Incorporate Google Translate in our website which may be used to translate site materials into multiple languages.
- Provide interpreters, upon request, at public meetings.
- Translated our transit map into Spanish.
- Provided information about PVTA service changes in Spanish.
- Provide information about projects that impact a neighborhood or that may have a significant impact in the languages spoken in the area.
- Translate consent forms, and letters containing information regarding participation in a program when needed.

The PVMPO has prioritized the following documents considered vital, and has begun the task of providing translations:

- Notice to Beneficiaries (Notice of Civil Rights)
- Title VI Complaint Procedures
- Complaint Form
- Consent Form
- Statement advising of the availability of free language assistance services for LEP individuals in materials routinely disseminated to the public
- Notices of proposed public hearings regarding proposed transportation plans and programs.

The PVMPO identifies LEP persons who need language assistance through the following activities and services:

- Coordination with municipal, regional and state agencies engaged in transportation planning processes.
- Outreach to community based organizations and municipal agencies to ask their assistance in identifying LEP persons who may need language assistance.
- Outreach to social service agencies in the region.
- Planning coordination and public involvement services and activities with the Pioneer Valley Transit Authority.
- Inclusion of instructions on how to request language translation of key written documents on public meeting notices.
- Asking persons attending public hearings if Spanish language translation and/or signing interpreter services are desired or needed (services are always available).
- Demographic assessment of census data to ascertain likely geographic location of potential LEP customers.

The PVMPO maintains a database of a written translation and oral interpreter service provider. This effort improves the speed and convenience with which written documents can be translated for the public, and reduces the need to have public requests for them. The staff to the MPO also works to ensure that PVMPO members are aware of the USDOT LEP guidance and support related LEP planning activities

Analysis of demographic data related to the ability to speak English from the 2013-17 U.S. Census and the American Community Survey (ACS). Table 4-11 shows the wide range of languages other than English spoken at home in the Pioneer Valley and speaks to the cultural diversity of the region.

Table 4-11 – Languages other than English Spoken at Home in the PVPC Region

Total Population	# of People *	% of Total Population
Spanish	26994	4.51%
Other Indo-European Languages	4963	0.83%
Russian, Polish, or other Slavic languages	4449	0.74%
Chinese (incl. Mandarin, Cantonese)	2047	0.34%
Other Asian and Pacific Island languages	1499	0.25%
French, Haitian, or Cajun	1133	0.19%
Vietnamese	1033	0.17%
Arabic	552	0.09%
Korean	552	0.09%
Other and unspecified languages	542	0.09%
German or other West Germanic languages	151	0.03%
Tagalog (incl. Filipino)	107	0.02%

*Speaks English Less than Very Well ACS 2013-17

4. Recommendations from the Language Access Plan (LAP) Plan

The PVPC staff will continue to implement recommendations identified through analysis and the public participation process with the assistance of the Joint Transportation Committee, the MPO and the Pioneer Valley Transit Administration. PVPC intends to take actions necessary to assure that the all affected communities are included in the decision making process and that the information needed to make decisions is available. As the process develops, practices being tested today may be institutionalized as policy depending on their success. Examples include:

- Review and update the measures of effectiveness on a regular basis, incorporating new spending on projects listed in the TIP.
- Continue public participation efforts related to the RTP and TIP to include local presentations at special group meetings, neighborhood council meetings, and community activities.
- Continue to follow recommendations related public outreach to LEP populations included in the 2106 PVMPO Public Participation Plan.

5. Ongoing Evaluation of Title VI and EJ Planning Efforts

To assess success in achieving the goals an action item evaluation was developed. This list will be used as an ongoing review of the effectiveness of policies and practices related to EJ and Title VI.

- Has a demographic profile of the metropolitan planning area been developed that identifies low-income and minority populations? Has this data been updated to reflect revised census data?

- Have PVTA and PVPC responded to requests for new and expanded transit service when requested? Has the region sought funds to offer these services?
- Have Title VI reporting requirements been supplemented with a report to the MPO?
- Does the planning process use demographic information to examine the benefits and burdens of the transportation investments included in the plan and TIP?
- Does the planning process have an analytical process in place for assessing the regional benefits and burdens of transportation system investments for different socio-economic groups?
- To what extent has PVPC made proactive efforts to engage and involve representatives of minority and low-income groups through public involvement programs? Does the public involvement process have a strategy for engaging minority and low-income populations in transportation decision making?
- What issues were raised, how are their concerns documented, and how do they reflect on the performance of the planning process?
- What mechanisms are in place to ensure that issues and concerns raised by low-income and minority populations are appropriately considered in the decision making process?
- What corrective action should be put into the process regarding existing requirements and prepare it for future regulatory requirements?

G. TITLE VI AND EJ SELF CERTIFICATION

The Pioneer Valley MPO has conducted an analysis of the Pioneer Valley Regional Transportation Plan with regard to Title VI and EJ conformity. The purpose of the analysis is to evaluate the impacts of the transportation planning process on minority and low-income populations. The analysis evaluates efforts to identify minority and low-income populations, develop public participation inclusive of these populations, and to identify imbalances that impact these populations. The procedures and assumptions used in this analysis follow FHWA guidance, are consistent with the procedures used by MPOs in Massachusetts, and are consistent with Title VI of the 1964 Civil Rights Act, National Environmental Policy Act, Section 109(h) of Title 23, DOT Title VI Regulations, DOT and CEQ NEPA Regulations, Section 1202 of TEA-21, DOT and CEQ NEPA Regulations, Section 1203 of TEA-21, DOT Planning Regulations, Executive Order 12898, USDOT Order 5610.2, and FHWA Order 6640.23.

Accordingly, PVPC has found the Pioneer Valley Regional Transportation Plan to be in conformance with Title VI of the Civil Rights Act of 1964, and requirements of Executive Order 12898 (Environmental Justice). Based on the measures used for

the EJ Analysis, the RTP does not have disproportionately high and adverse impacts on low-income and minority populations. Specifically, the following conditions are met:

1. Conditions Related to Public Involvement

PVPC has identified a strategy for engaging minority and low-income populations in transportation decision making and to reduce participation barriers for these populations. Efforts have been undertaken to improve performance, especially with regard to low-income and minority populations and organizations representing low-income and minority populations. In 2016 the Public Participation Process was modified to incorporate Title VI guidance from the Massachusetts Office of Diversity and Civil Rights.

2. Conditions Related to Equity Assessment

The Pioneer Valley planning process has an analytical process in place for assessing the regional benefits and burdens of transportation system investments for different socio-economic groups. A data collection process is used to assess the benefit and impact distributions of the investments and specific strategies are identified for responding to imbalances.

3. Title VI and EJ Conclusions

PVPC addresses Title VI and environmental justice and social equity issues as part of its transportation planning process. PVPC has identified goals to enhance the existing public participation process, to identify low income and minority populations, and provides measures of effectiveness to evaluate transportation deficiencies, benefits, and burdens. The PVPC will continue to improve its public participation and planning process to ensure that it is conducted in accordance with Title VI of the Civil Right Act of 1964, FHWA/FTA guidance on LEP and requirements of Executive order 12898 (Environmental Justice) to give full and fair consideration to minority and low income residents in the region. The region's outreach and efforts to engage all residents in meaningful discussion around transportation issues continues to be a priority of the MPO.