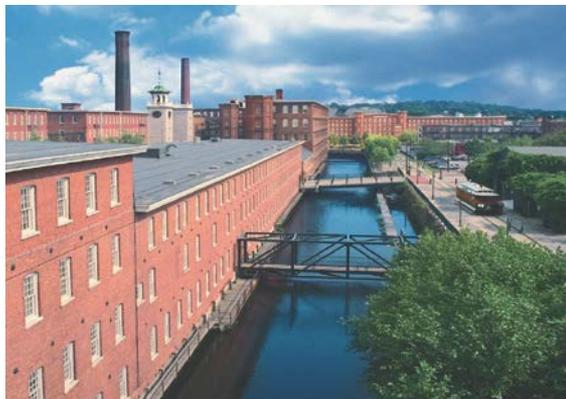




Complete Streets Implementation Workshop



Nicolas Bosonetto, PE
Transportation Engineer

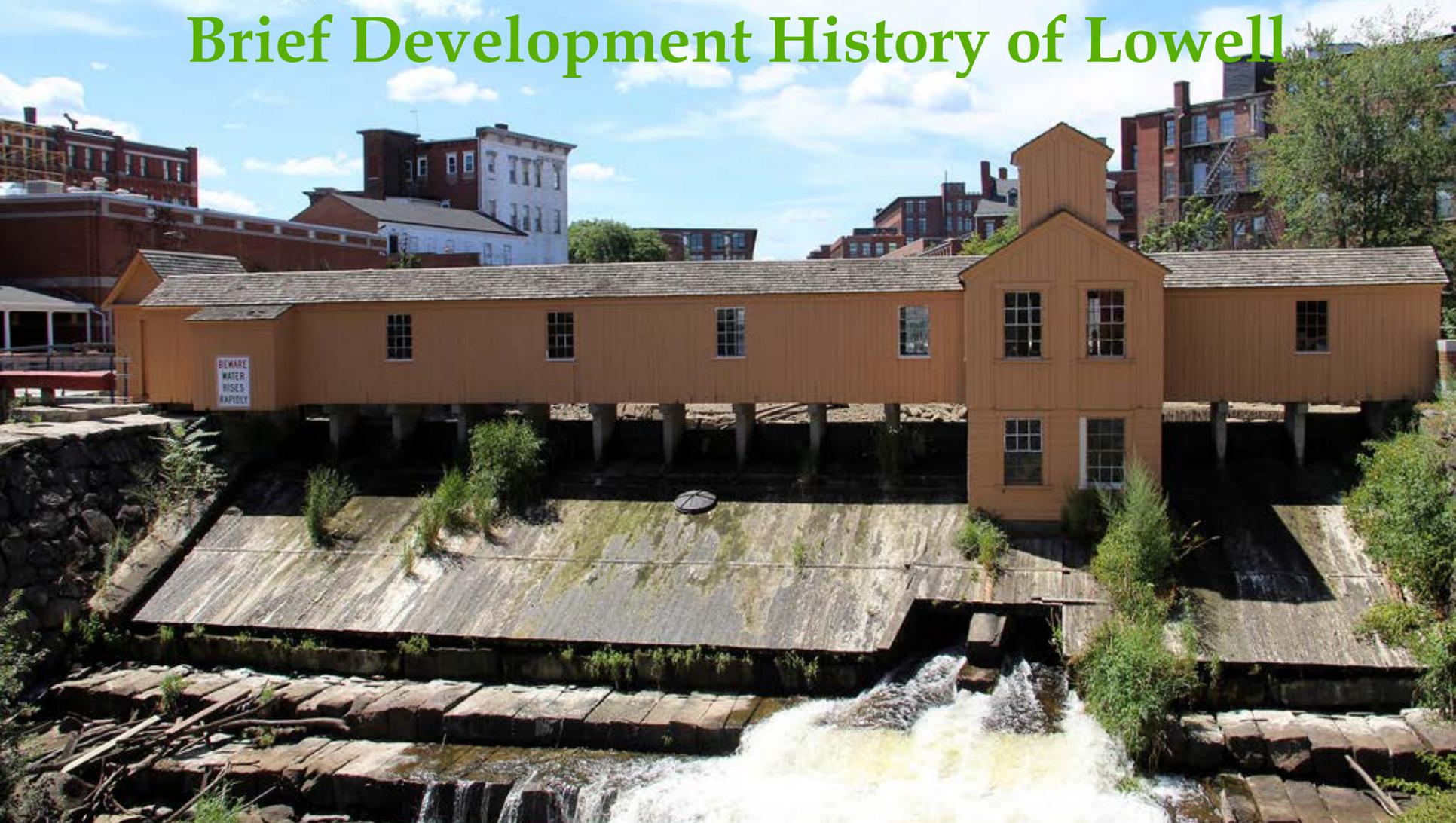


City of Lowell

Complete Streets Committee

- Yovani Baez-Rose – Neighborhood Planner
- Nicolas Bosonetto – Transportation Engineer
- Lisa DeMeo – City Engineer, DPW
- Joe Donovan – GIS Manager
- Sidney Liang – Bicycle and Pedestrian Improvements Coordinator (Mass In Motion)
- Judy Tymon – Senior Planner

Brief Development History of Lowell



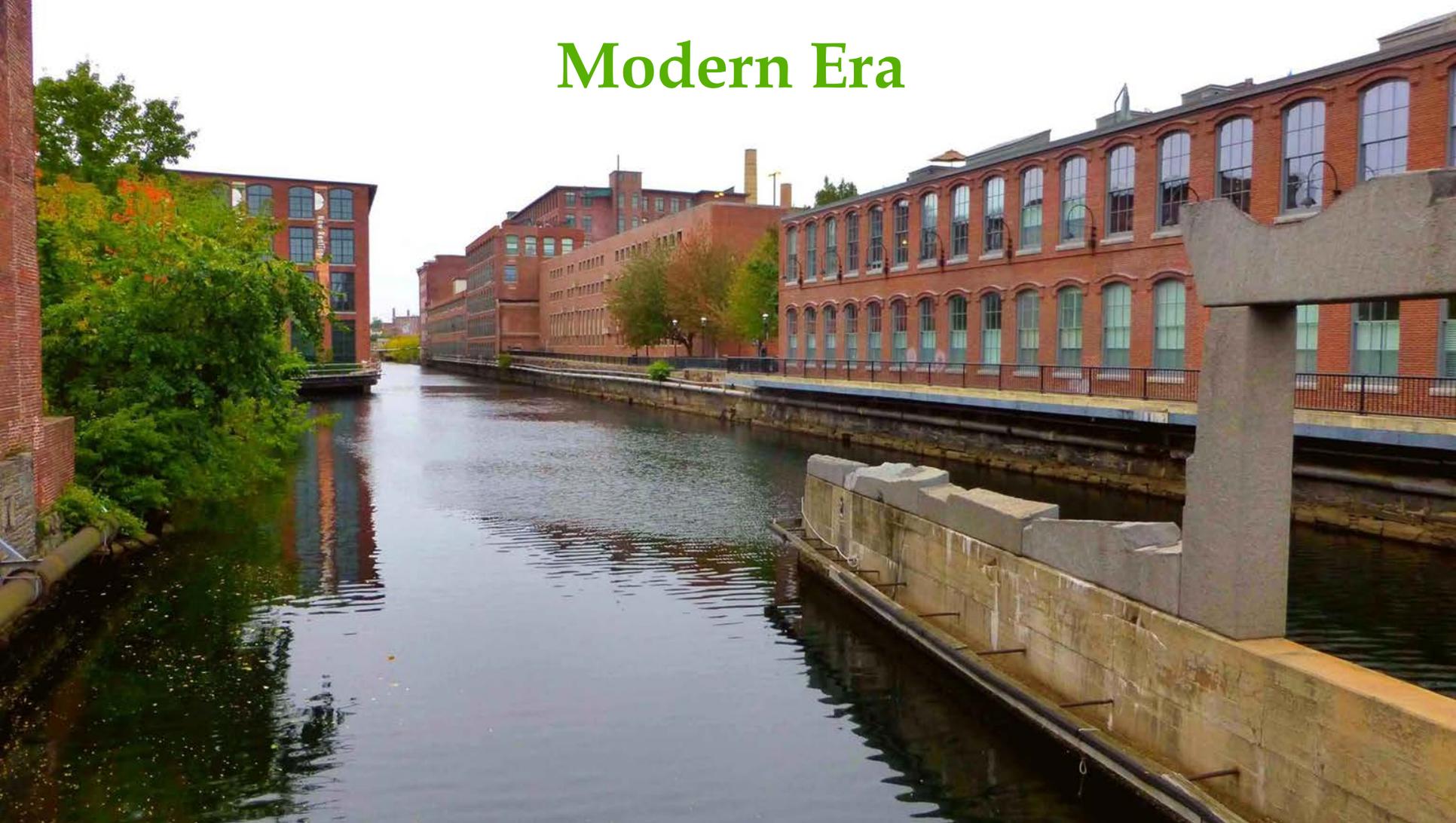
Brief Development History of Lowell

- 1821 – Industrialists purchase land and water rights to build a water powered textile complex in what is now downtown Lowell
- 1820's – Irish immigrants arrive to build canals and mills
- 1848 – Lowell is largest industrial center in USA

Waves of immigrants arrive to work at mills and settle in neighborhoods surrounding downtown Lowell

- 1840's – Irish immigration increases due to potato famine – The Acre neighborhood
- 1860's – French Canadian immigration – Little Canada neighborhood
- 1890's – Greek immigration – The Acre neighborhood
- 1900's – Portuguese immigration – Back Central neighborhood
- 1920's - 1970's – Manufacturing and population decline

Modern Era



Modern Era

- 1970's – City becomes a State Heritage Park and National Historic Park
- 1980's – Wang Laboratories bring high-tech jobs
- 1990's – Lowell University becomes part of University of Mass. System
- 2000's – Middlesex Community College expands to Federal Building

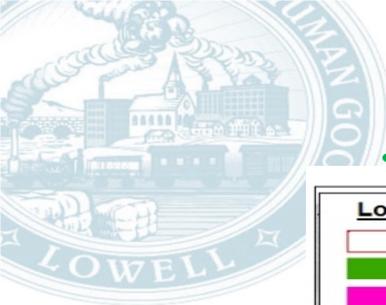
Waves of immigrants continue to settle in neighborhoods surrounding downtown Lowell

- 1980's – Cambodian and South East Asian immigration – The Acre/Lower Highlands
- 1990's – Hispanic immigration – Centralville/Lower Belvidere neighborhoods
- 2000's – Indian immigration – Middlesex Village neighborhood
- 2000's – African immigration – Centralville neighborhood

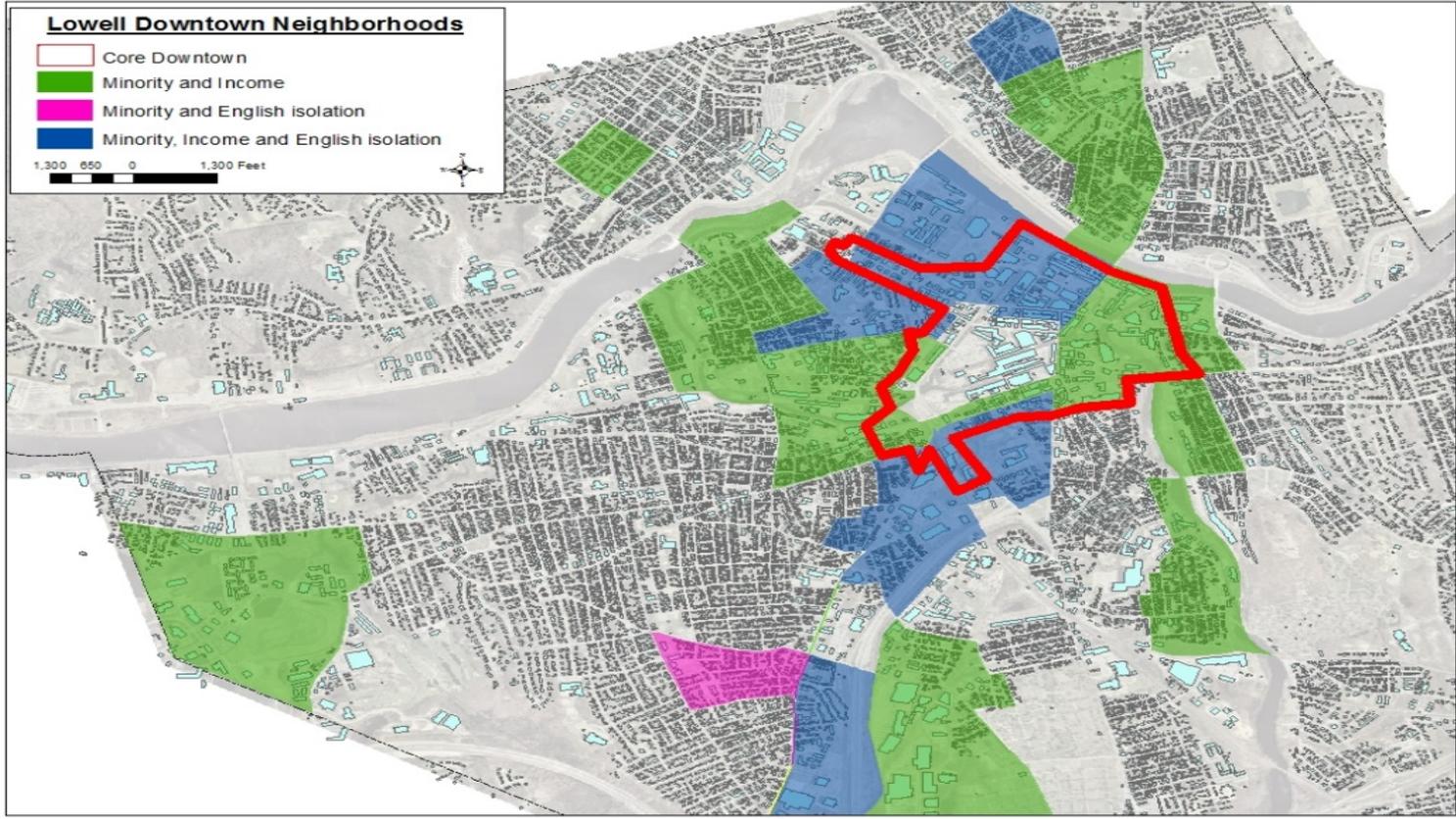
Modern Era

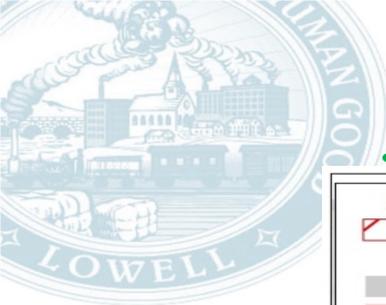
- Core downtown area contains economic opportunities, educational institutions, and public services
- Surrounding neighborhoods have concentrated low income, minority, low English proficiency, and immigrant
- Diverse
 - 21% Asian
 - 16% Hispanic
 - 25% Foreign Born
 - 44% Speak language other than English

Sources: [A Profile of the Foreign-Born in Lowell, MA](#)– Urban Land Use Institute
Census data – 2014 estimates

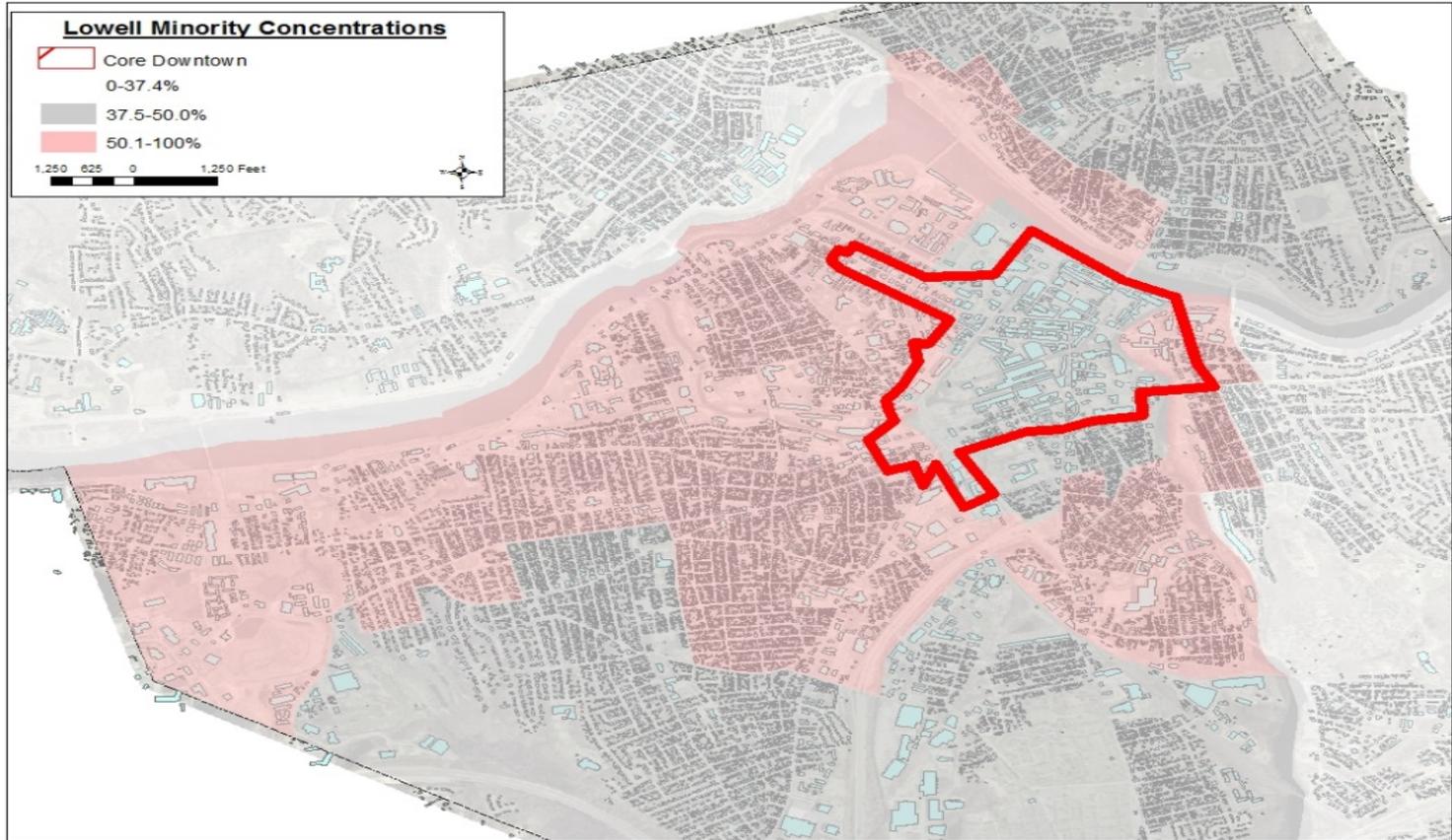


Minority Concentrations





Environmental Justice





Challenges

- 90% of walking trips for work, shopping, and meal are <1 mi.
- Only 16% of population walks at all for any trip
- Biking trips are almost exclusively for recreation
- Transit terminal is isolated from Downtown and almost $\frac{3}{4}$ miles away
- School Busing due to desegregation plan instead of neighborhood schools
- National Park Service Trolley System is underutilized resource
- Funding challenges

Sources: Yang, Yong, and Ana V. Diez-Roux. "Walking Distance by Trip Purpose and Population Subgroups." *American Journal of Preventive Medicine* 43.1 (2012): 11–19. PMC. Web. 4 Dec. 2016.

Pucher, J., and J. Renne, 2003 - [Socioeconomics of Urban Travel: Evidence from the 2001 NHTS, Transportation Quarterly, 57, 49-77](#)



Complete Streets Goals

- Getting rid of automobiles **is not** our goal.
- Transportation Equity is our goal.
- Goal is to target Lowell residents living with 1 mile of:
 - Their Schools;
 - Their Work;
 - Their Shopping;
 - Their Social/Cultural venues;
 - Their Medical Services;
 - Their Social Services;
 - Their Parks;
- Goal is to provide safe and comfortable bike/ped opportunities;
- Goal is to provide efficient transit services;
- Goal is to increase physical activity and health.

Commuting to Work

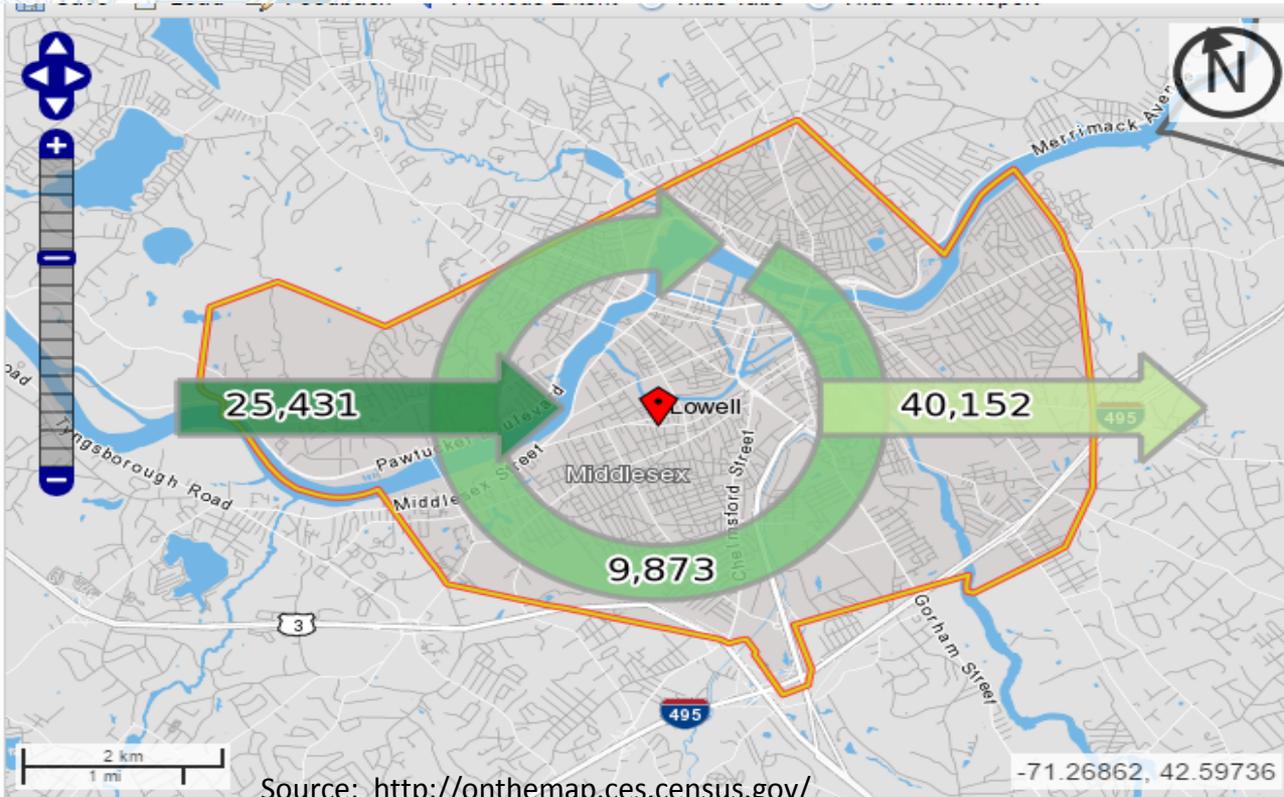


Commuting to Work

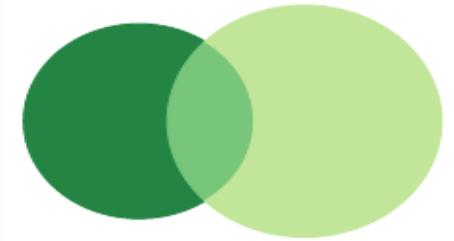
- Lowell Population – 108,941
 - 58,183 (67%) in labor force
 - 35,304 jobs in Lowell
 - 25,431 workers commute into Lowell
 - 40,152 workers commute out of Lowell
 - Of the 9,873 People living and working in Lowell:
 - 2,515 people walked to work (25%)
 - 293 people used transit (3%)
 - 157 people bike to work (1.5%)
 - 110 from Centralville, South Lowell, Acre
 - 1,403 people worked at home (14%)
- 44%

• Sources: 2014/2013 US Census ACS Data,
<http://www.census.gov/censusexplorer/censusexplorer-commuting.html>

• Mass Labor and Workforce Dev. ES-202 report 2015



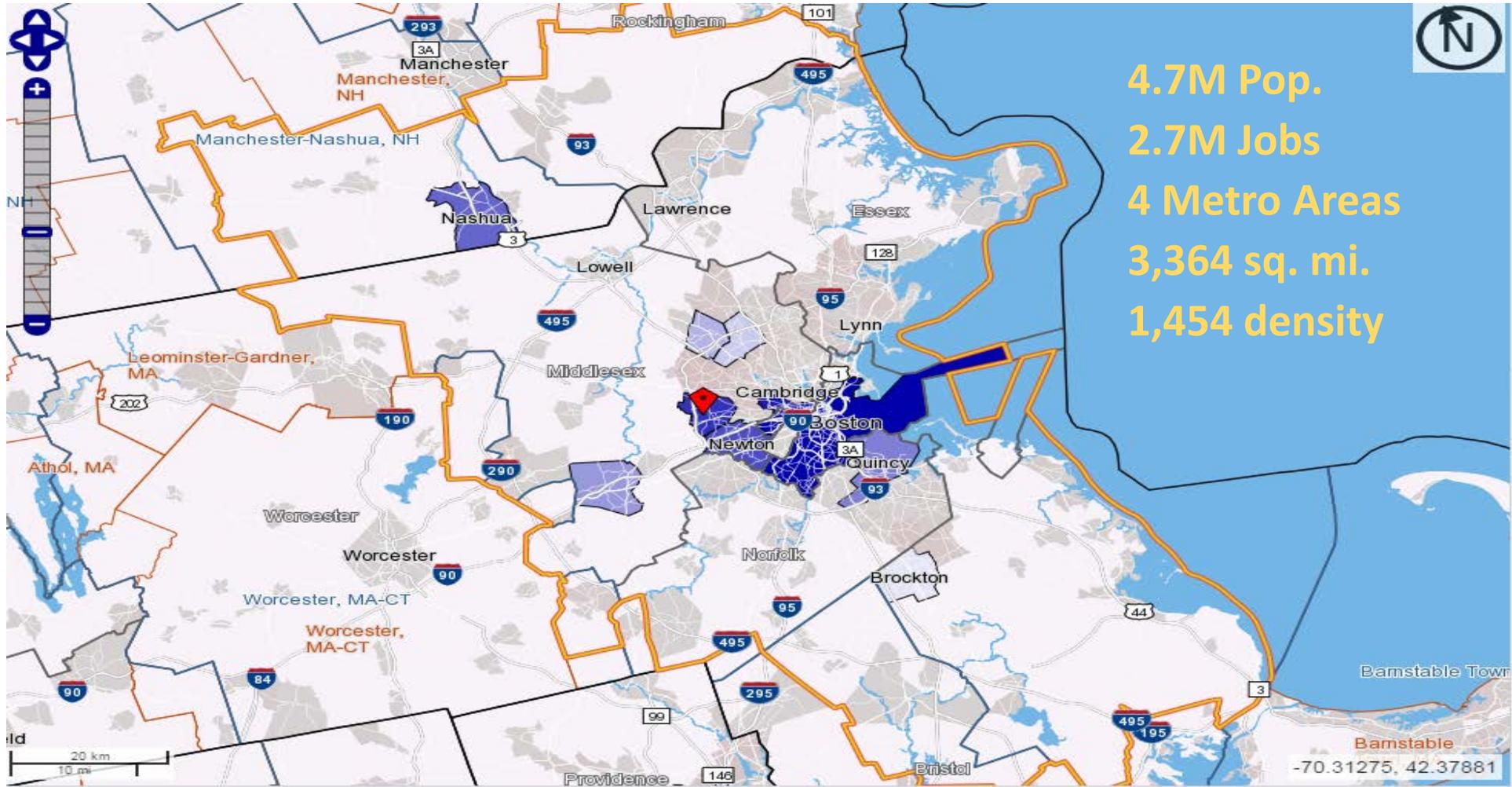
Source: <http://onthemap.ces.census.gov/>



■ 25,431 - Employed in Selection Area, Live Outside
■ 40,152 - Live in Selection Area, Employed Outside
■ 9,873 - Employed and Live in Selection Area

	2014	
	Count	Share
Employed in the Selection Area	35,304	100.0%
Employed in the Selection Area but Living Outside	25,431	72.0%
Employed and Living in the Selection Area	9,873	28.0%
Living in the Selection Area	50,025	100.0%
Living in the Selection Area but Employed Outside	40,152	80.3%
Living and Employed in the Selection Area	9,873	19.7%

Boston Urbanized Area



Complete Street Policy



Complete Street Policy

Commitment

- Provide improved mobility and accessibility opportunities for all users regardless of their age, income or ability.
- All transportation infrastructure projects requiring funding or approval by the City of Lowell... shall adhere to the City of Lowell Complete Street Policy.
- All proposed revisions to zoning ordinances, subdivision regulations, design guidelines, master plans and other land use regulations, guidelines or templates shall integrate the Complete Streets Policy.

Complete Street Policy

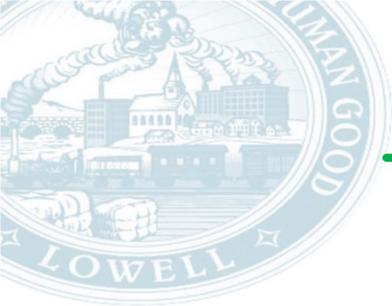
Implementation (1/2)

- The City Engineer and the Transportation Engineer shall consider appropriate Complete Street design elements and guidelines during the normal course of duties performed.
- The Department of Planning and Development shall make recommendations to update the City's zoning code, master plans, and site plan/subdivision review process as necessary to ensure that new development aligns with the Complete Streets policy and include the necessary infrastructure elements.
- The Lowell Police Department shall provide training to its officers in the rules and ordinances regarding pedestrians and bicyclists and enforce the use of sidewalks, crosswalks, and bike lanes accordingly.

Complete Street Policy

Implementation (2/2)

- The Department of Public Works will maintain City streets, bike lanes, bus stops and sidewalks in accordance with this policy.
- City staff, officials, and members of the Land Use Boards will receive training through workshops and classes on Complete Streets.
- The Departments of Planning and Development (DPD), Public Works (DPW), and Management Information Systems (MIS) shall maintain a GIS based inventory of existing multi-modal infrastructure data. Additionally, performance metrics should be established to gauge the success of the Complete Streets policy.



DPW – 3R Projects

- Lisa DeMeo – City Engineer
 - Resurfacing, Restoration, Rehabilitation (3R) projects
 - Paid with Chapter 90 funds (state)
 - ADA Transition Plan
 - Usually within existing right-of-way
 - Scope – Repaving, sidewalk & curbing
 - Opportunity to:
 - Meet ADA compliance;
 - Realign Intersections;
 - Add crosswalks;
 - Add greenspace.



DPW – 3R Projects





DPW – 3R Projects

New Traffic Patterns established with bump outs





DPW – 3R Projects

Some drivers still try to speed through intersection





DPW – 3R Projects





DPW – 3R Projects





Planning and Education

- Yovani Baez-Rose – Neighborhood Planner (DPD)
- Smart Growth America grant
- Neighborhood Plans
- Merrimack Corridor Study

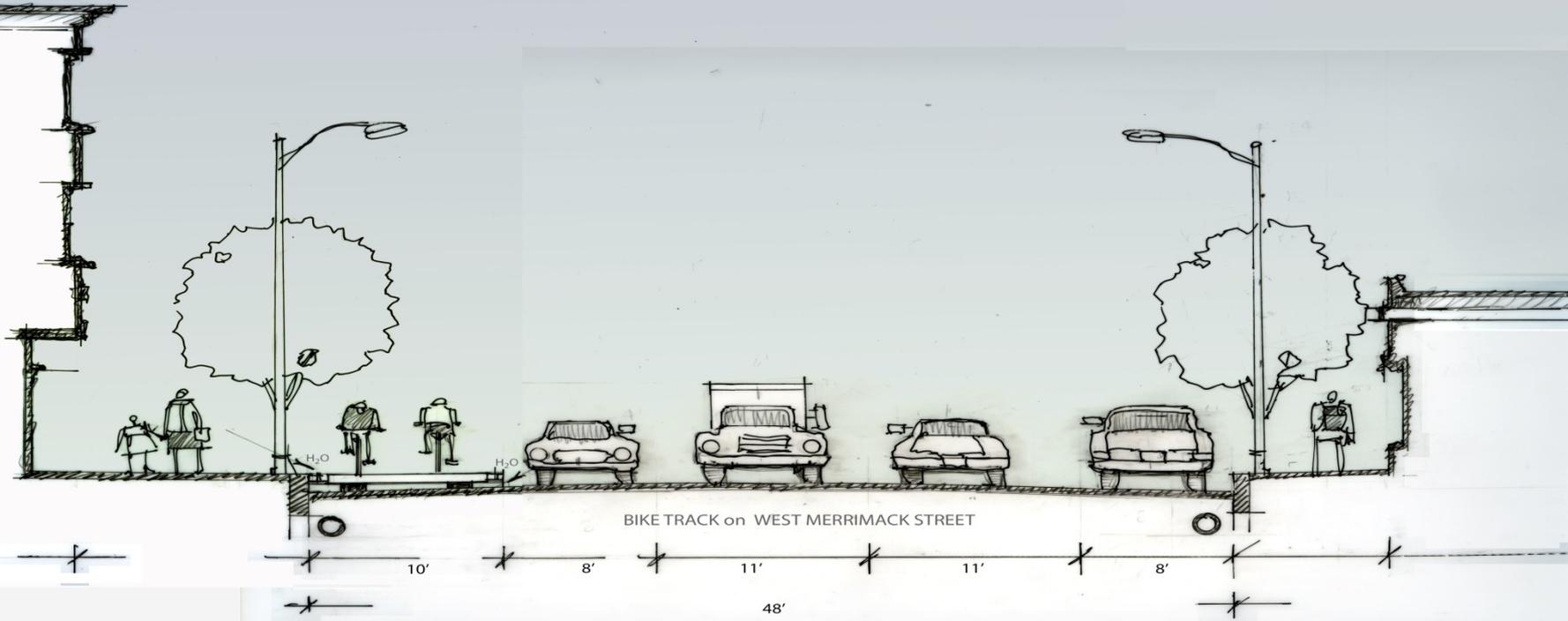


Planning and Education





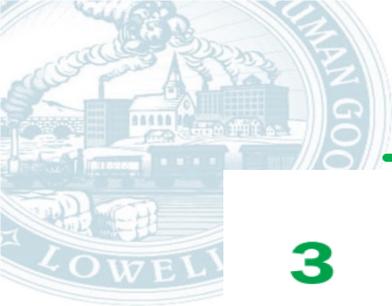
Planning and Education





Zoning and Planning

- Judy Tymon – Senior Planner (DPD)
- Zoning Boards
- Master Planning
- Project Planning



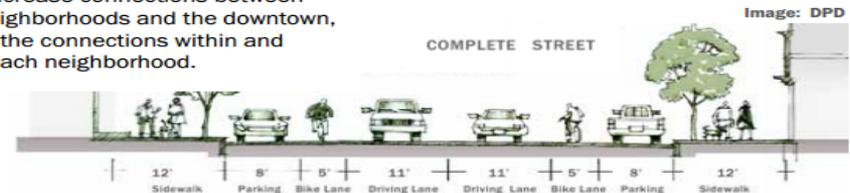
Zoning and Planning

3 PRIORITIZE LAND-USE POLICIES THAT PROMOTE WALKABLE, WELL-NETWORKED NEIGHBORHOODS.

- Adopt and implement a Complete Streets policy to accommodate and encourage multi-modal transportation use.
- Develop and utilize public squares and gathering spaces to foster social connections.
- Enhance the pedestrian environment and encourage walkability by adapting landscaping requirements for new development projects.
- Improve the quality of the pedestrian experience in neighborhoods that are well-suited for walking by addressing existing property maintenance concerns, reducing fencing, planting additional street trees, increasing the removal of snow from sidewalks, preventing parking on sidewalks, and improving the physical condition of sidewalks.
- Revise zoning requirements to support the trend towards increased telecommuting and home-based businesses in a manner which preserves the residential character of Lowell's neighborhoods and prevents the commercialization of established residential areas.
- Explore the creation of a new commercial zoning district for areas that are not well-aligned with either Regional Retail or Neighborhood Business.
- Encourage mixed-use development, where it will enhance the viability of neighborhood commercial districts, add amenities to neighborhoods, and/or be consistent with historic land use patterns that helped shape and define certain neighborhoods.
- Develop a more sophisticated approach to parking regulation based upon market demand and economic principles in appropriate locations rather than relying on minimum requirements as the sole regulatory tool in all areas of the City.
- Strive to increase connections between various neighborhoods and the downtown, as well as the connections within and between each neighborhood.



Photo: Sharon Pruitt

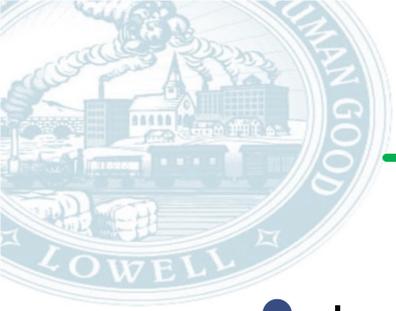




Zoning Board Reviews

Proposed 240 Unit Apartment Building



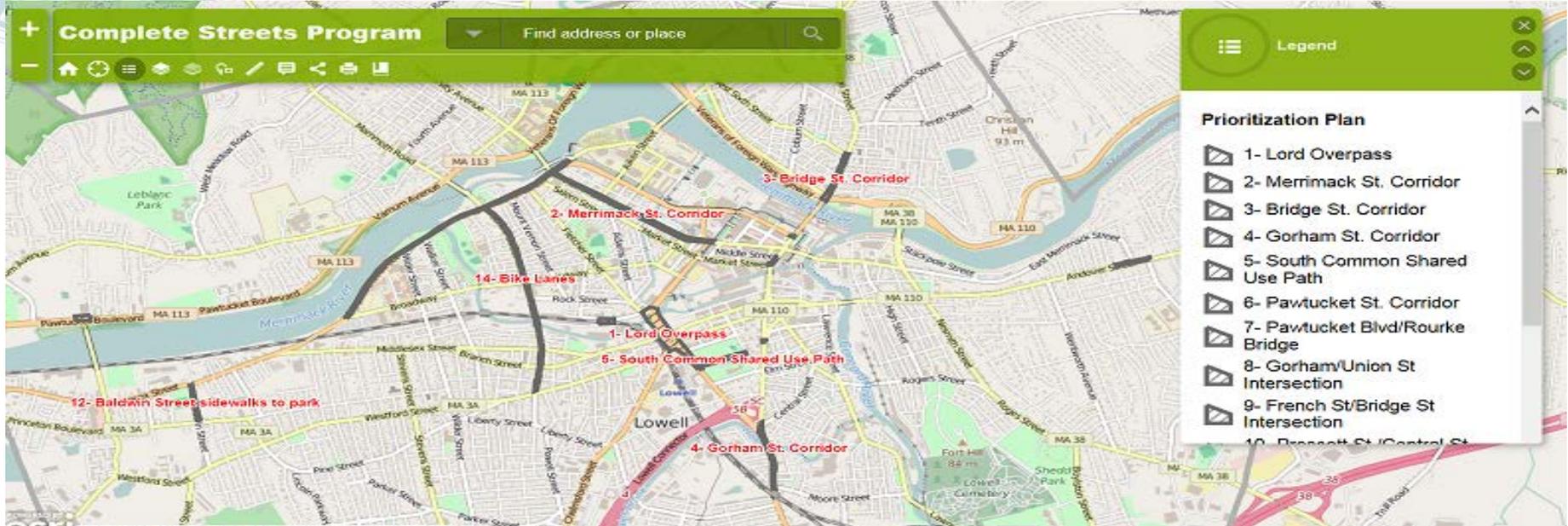


GIS Based Inventory

- Joe Donovan – GIS Manager (MIS)
- GIS inventory
- Web-based Complete Streets



GIS Based Inventory



<http://lowell.maps.arcgis.com/apps/MapTour/index.html?appid=e3d81165a148430aa24b19b457f8ed84>

<http://lowell.maps.arcgis.com/apps/Viewer/index.html?appid=1da2fcea8a5f4ec7bd8e51ed44f1aea2>



Pedestrian and Bicycle Safety

- Sidney Liang – Bicycle & Pedestrian Coordinator (DPD)
- Safe Routes to School
- Bike & Ped Safety
- Mass in Motion
- Lowell Community Health Center
- Khmer community liaison



Pedestrian and Bicycle Safety

Safe Routes to School





Pedestrian and Bicycle Safety

The City of
LOWELL
Alive. Unique. Inspiring.

Investigate and Report Obstructions





Transportation Design

- Nicolas Bosonetto – Transportation Engineer (DPD)
- Transportation Policy and Ordinances
- Transportation Planning – Zoning Board reviews
- Project Design & Management
- Construction Engineering – including TCP
- Traffic Operations

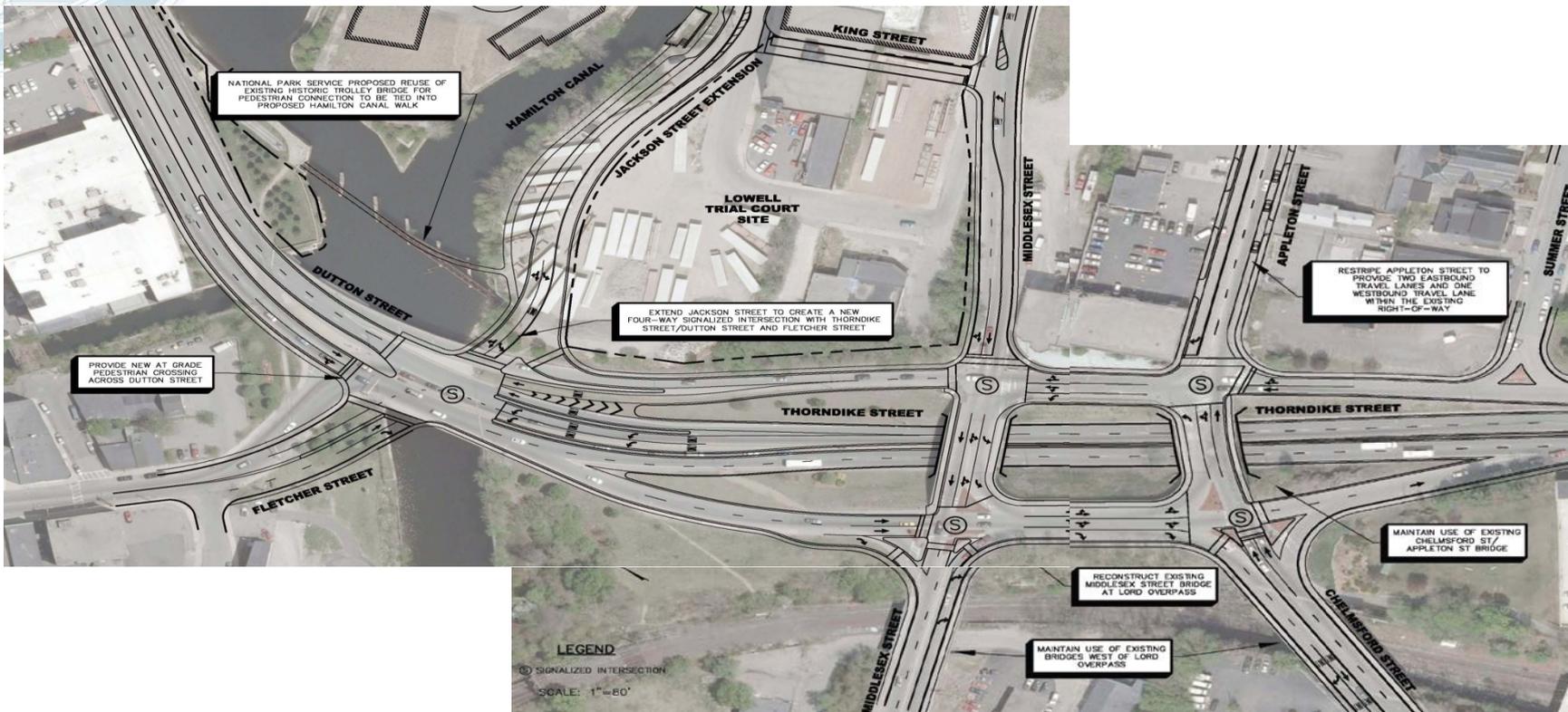


Lord Overpass





Lord Overpass





Lord Overpass Project Complete Streets Version



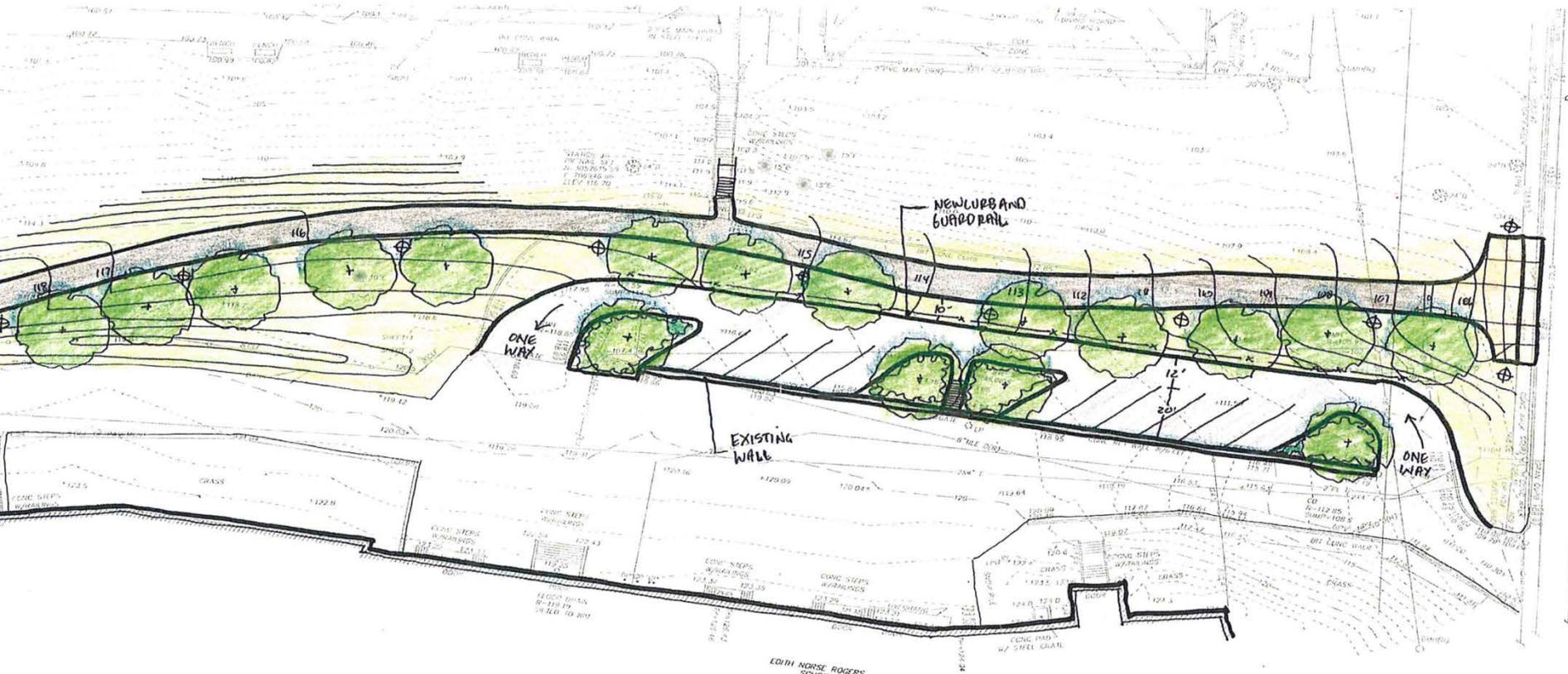
Equitable distribution of right-of-way between modes



South Common Project

- \$400,000 Grant from MassDOT
- Construct 10' Multi-use path system
- Connect:
 - Bus/Train Station,
 - K-8 School,
 - Low Income/Elderly Housing
 - Park Amenities
- Part of overall Lord Overpass Project



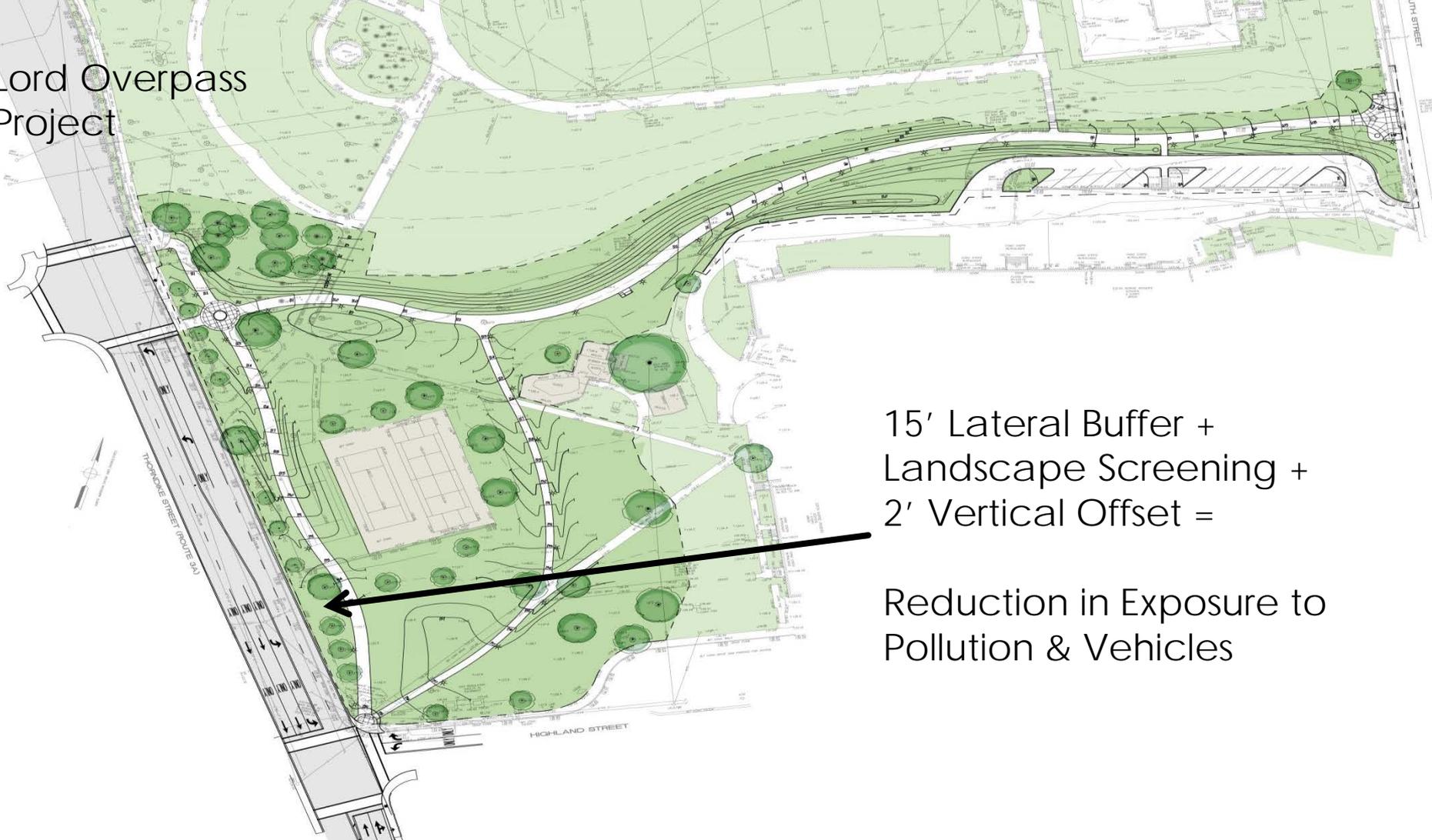


EDITH MORSE ROGERS SCHYPP

BRP
SCHEME 'A'
MAY 27, 2016
SCALE: 1"=30'



Lord Overpass Project



15' Lateral Buffer +
Landscape Screening +
2' Vertical Offset =

Reduction in Exposure to
Pollution & Vehicles



Thank You