

The I-81 Challenge

May 2011 Public Meeting: Informational Boards

In the fall of 2009, the Syracuse Metropolitan Transportation Council (SMTC) and the New York State Department of Transportation (NYSDOT) launched *The I-81 Challenge*, which is the official decision-making process for determining the future of I-81 in the greater Syracuse region. Recognizing the need and critical importance of public participation in the process, the SMTC and the NYSDOT hosted a series of public workshops for *The I-81 Challenge*.

These boards were prepared for and displayed during the first of three annual public workshops and was held over the course of three days in May of 2011. The workshops featured eight stations with the enclosed informational boards as well as interactive exercises and educational videos. Each station was staffed with project team members with relevant expertise.



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<i>These boards examined 5 case studies from cities that have faced challenges comparable to that of the Syracuse region and the I-81 corridor. The station included an educational video by the SMTC and titled, “Lessons Learned: Case Studies from Urban Freeways.” Attendees were then asked to use a template provided to them to draw or write their vision for I-81.</i>	
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<i>Attendees then had the opportunity to participate in breakout groups with a facilitator to share their concerns, visions, goals, and objectives in a group setting.</i>	

Station 1

The I-81 Challenge

Boards in this station provided information on the background, purpose, and process of
The I-81 Challenge.





What is *The I-81 Challenge*?

The I-81 Challenge is the official decision-making process to determine the future of I-81 through the Syracuse region.



WHO IS INVOLVED?

- The New York State Department of Transportation (NYSDOT) 
- The Syracuse Metropolitan Transportation Council (SMTC) 
- Agencies, organizations, and individuals from across the community who have a stake in I-81



Why is *The I-81 Challenge* needed?



AGING INFRASTRUCTURE

Sections of I-81—particularly sections of the viaduct in downtown Syracuse—are nearing the end of their lifespan.



LOOKING FORWARD

Over the coming decades, portions of the highway will need to be replaced, reconstructed, removed, or otherwise changed.

What will *The I-81 Challenge* accomplish?



UNDERSTANDING

A clear understanding of our collective transportation needs and problems.



GOALS

A set of goals that identify what we want to accomplish with I-81 and the measures by which we will know we have succeeded.



OPTIONS

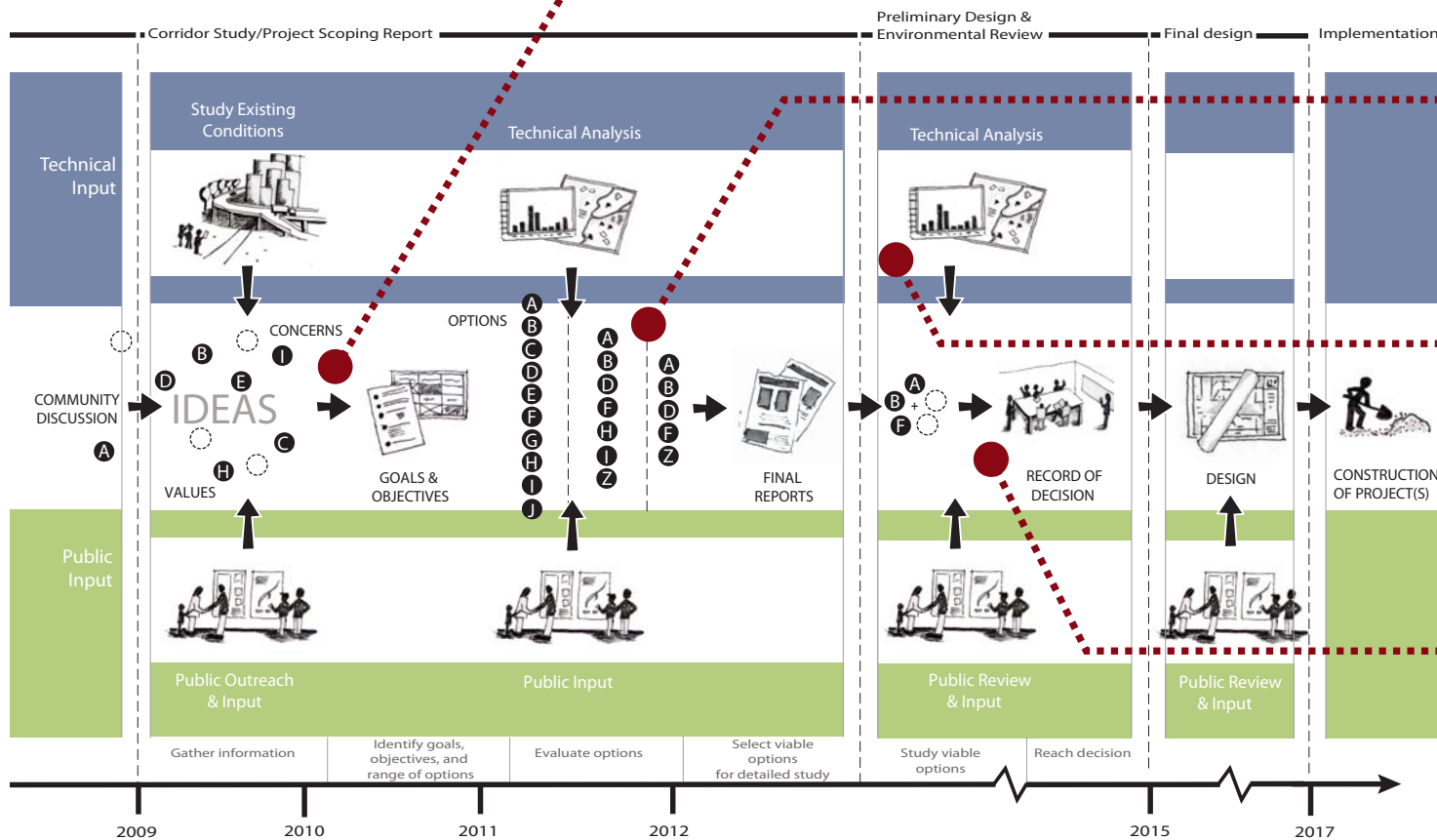
A short list of viable future options that will go through a formal environmental review.



SOLUTION(S)

A project or projects that can be implemented.

How will *The I-81 Challenge* lead to a decision?



* Note that these represent target dates only.

PUBLIC + TECHNICAL INPUT

Generate a wide range of options for the future of I-81 as well as a set of criteria to narrow down options based on broad public participation and technical analysis.

VIALE OPTIONS

Narrow the options through more public involvement and technical analysis.

ENVIRONMENTAL IMPACT STATEMENT

Establish a set of viable options for formal environmental review required by federal and New York State law.

REFINING ALTERNATIVES

Further refine options through a formal environmental review process— ultimately leading to a decision and a project or projects that can be implemented.

Station 2

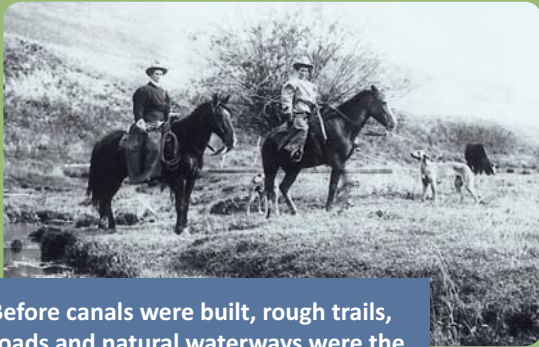
The History of I-81 & Its Impact

These boards focused on the history of I-81. The station included a short educational video created by the SMTC and titled “The Evolution of Transportation in the Syracuse Region.”

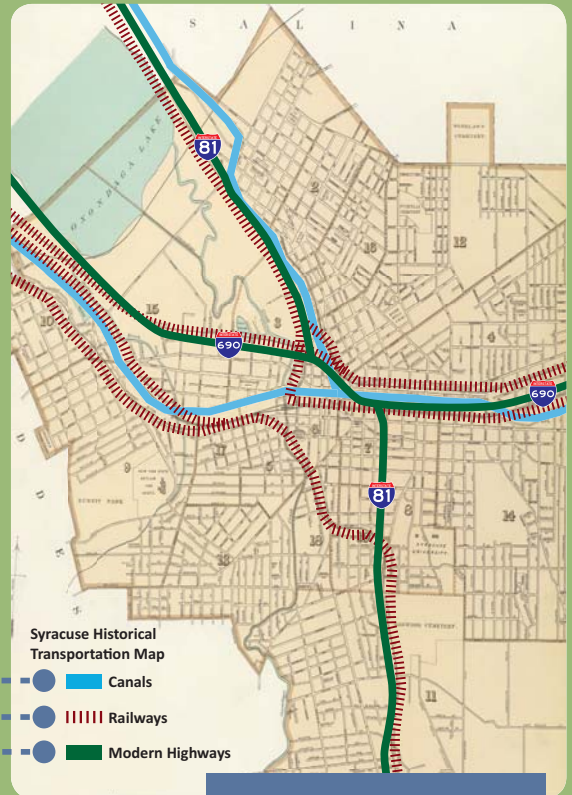
Attendees were invited to share their stories about I-81 and add them to a large “Story Wall.” These stories touched on personal memories, the costs of the highway, the value, and more.



Our early transportation system



Before canals were built, rough trails, roads and natural waterways were the only ways to travel



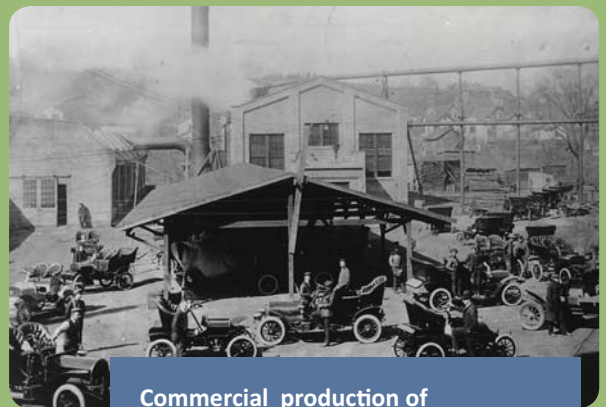
Today's transportation system was influenced by the location of the canals and railways of the past



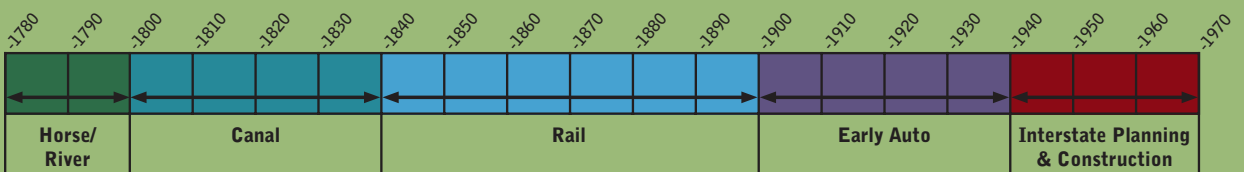
The Erie Canal, completed in 1825, ran through Syracuse and spurred economic development in the region



By the late 1830s, steam powered railroads had come to Syracuse



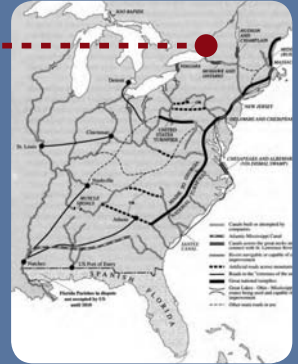
Commercial production of automobiles began in the early 1900s



Canals

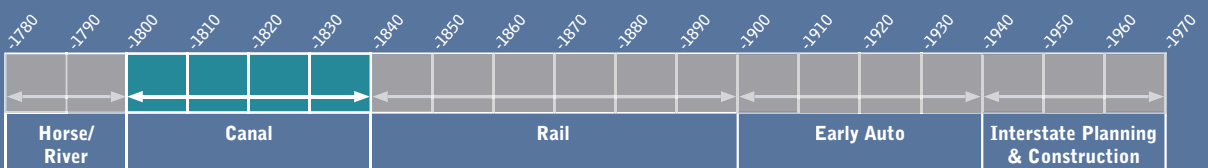
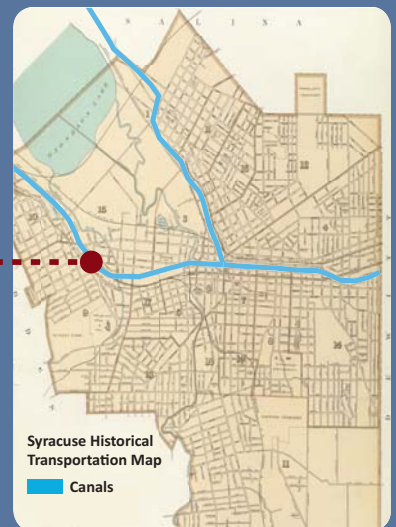
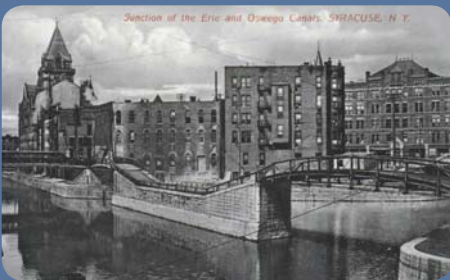
THE REPORT ON ROADS, CANALS, HARBORS AND RIVERS

- Presented to Congress in 1808 by Secretary of the Treasury Albert Gallatin
- Detailed many transportation infrastructure projects, including a canal across New York State - that would eventually become the Erie Canal



THE ERIE CANAL

- Created a major economic corridor
- Sparked canal building across the nation
- Established New York as a leader in transportation development



Railroads and streetcars



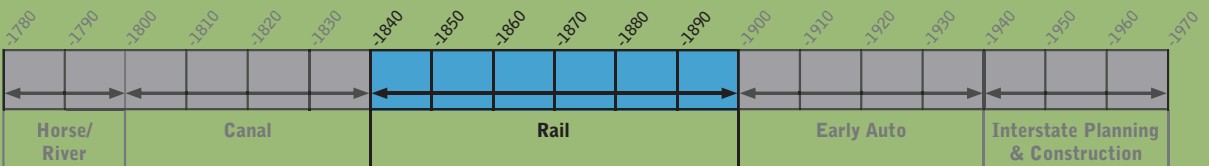
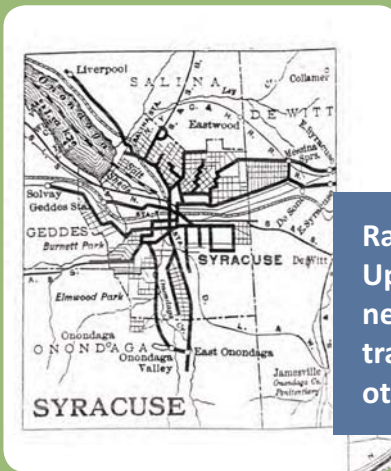
Railroads began to operate in the 1830s and soon became the preferred method for shipping.



Syracuse Historical Transportation Map

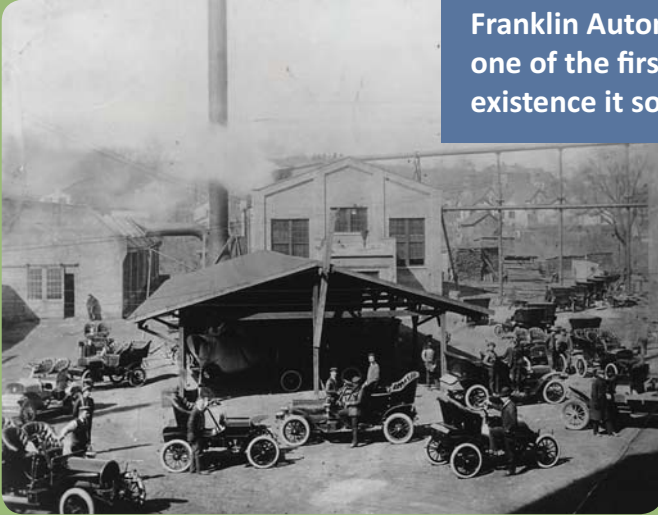
||||| Railways

Rail was also important for moving people. Up to 1941, Syracuse operated a dense network of streetcars and interurban trains connecting neighborhoods and other towns with downtown.



Automobiles

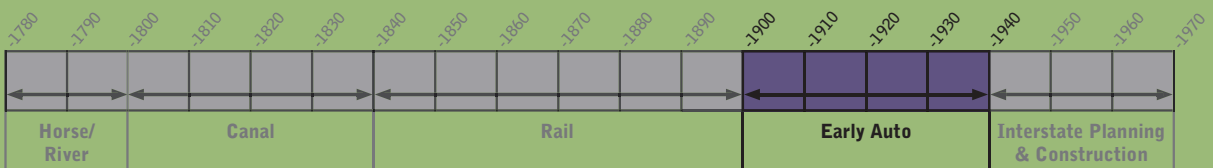
Automobiles entered the scene in the early 1900s. The Franklin Automobile Company, based in Syracuse, was one of the first car manufacturers. In its 30 years of existence it sold about 150,000 vehicles.*



By the early 1900s, Syracuse streets began to experience congestion associated with the railroads, streetcars and newly introduced automobiles operating on city streets.

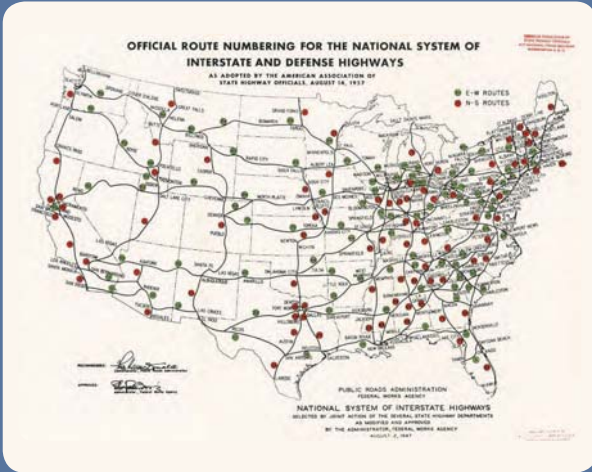


In order to improve road conditions, the Delaware & Lackawana Railroad began operating on an elevated structure and the New York Central Railroad was shifted north and elevated along the alignment of today's I-690.



* Source: Smithsonian National Museum of American History "America on the Move"

Interstate highway planning

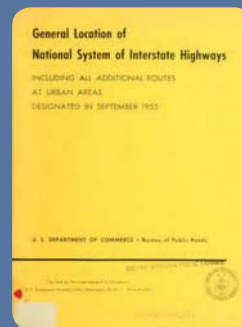


1944 FEDERAL HIGHWAY ACT

- Began a new era of highway building
- Provided significant federal funding for new highway construction across the nation

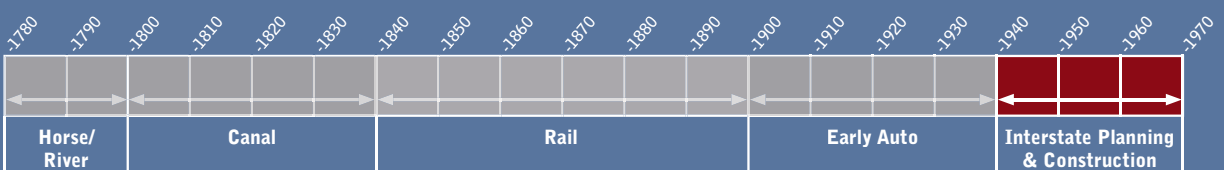
THE 1955 YELLOW BOOK

- Mapped out what became the interstate highway system
- Located interstate highways through and near major urban centers



FEDERAL-AID HIGHWAY ACT OF 1956

- Authorized \$25 billion dollars to construct 41,000 miles of the original interstate system
- Provided federal funds for majority of construction costs



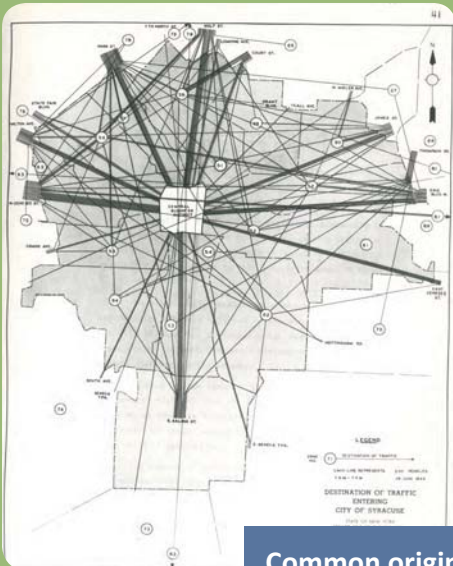
Highway routing

While the federal government laid out general locations of highways, it was up to state and local officials to determine the exact alignment of the new highways.

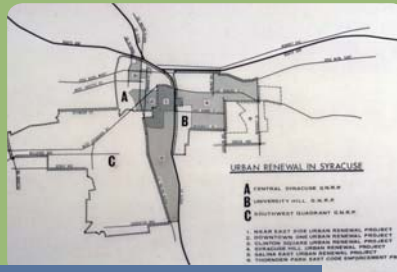
Key factors that influenced the routes of our current highways:



Location of existing transportation rights of way



Common origins and destinations



Location of areas identified for urban renewal

WHAT IS URBAN RENEWAL?

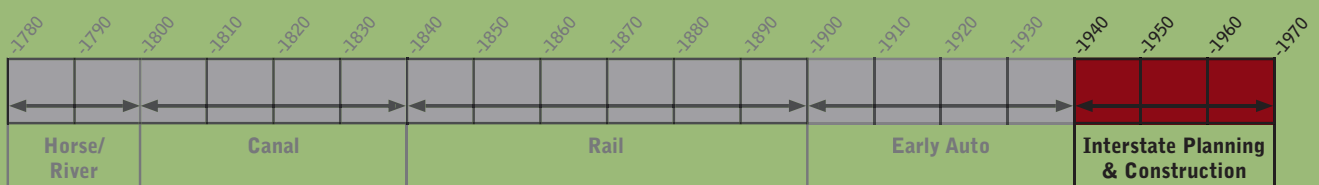
Urban renewal refers to efforts to revitalize what were considered blighted city areas during the 1940s-1970s.

Urban renewal usually included:

- Relocation of businesses
- Demolition of buildings
- Displacement of people



I-81 was aligned along Almond Street. This alignment allowed for an elevated structure and coincided with the location of the Near East Side Urban Renewal Area.

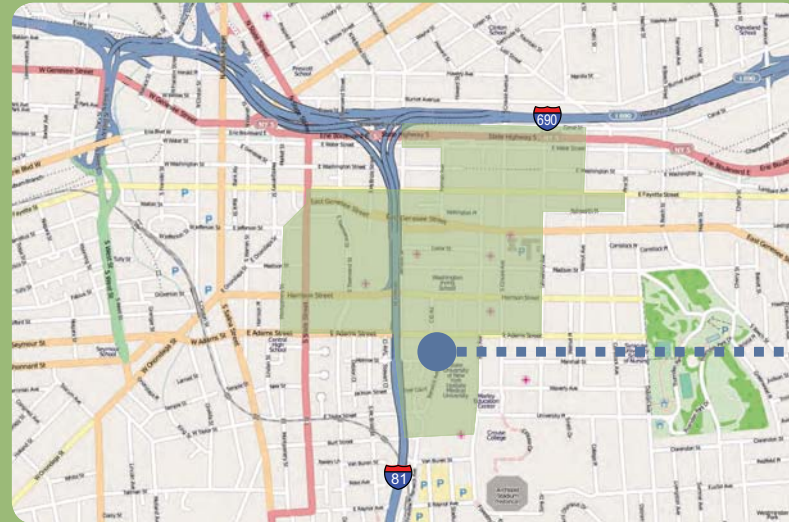


I-81 and the 15th Ward



Syracuse, like many cities, experienced controversy around the locations of the highways built during this era. In Syracuse, the controversy involved a variety of concerns including environmental protection, historical and neighborhood preservation, race, and class.

I-81 is often cited as the primary force in the loss of the 15th Ward neighborhood. However, it is important to understand that I-81 is only part of the story.



15th Ward



In 1963, Syracuse Mayor William F. Walsh began a major urban renewal effort in the 15th Ward that displaced 1,300 residents and would ultimately make way for a museum, a new police headquarters, a state hospital, a middle-income housing complex and the I-81 viaduct.*

* Source: The Post-Standard, syracusesthenandnow.org

The construction of I-81

I-81 was completed in 3 segments, over a ten-year period from 1959-1969



The first segment, completed in 1959, stretched from Brewerton to the northern end of downtown Syracuse

The southern segment north to Adams Street opened in 1962

The last link, which included the viaduct, opened in 1969



1964 - Townsend Street



1965



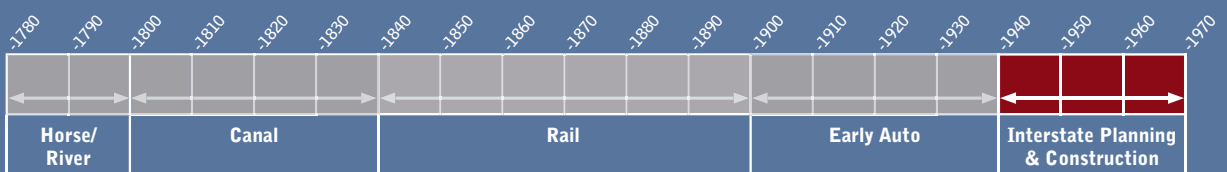
1966



1967



Cars on a new section of I-81



How does I-81 impact you?

This is some of what we've heard so far:

I-81 has facilitated economic development throughout the region



The highway increases convenience and mobility in our region



I-81 is perceived as a barrier that divides the city of Syracuse



I-81 played a part in the destruction of the 15th Ward neighborhood



Because of I-81, Syracuse is a "20 Minute City"



I-81 encourages the use of cars over alternative modes of transportation





Share your stories about I-81

Write and post your responses on the wall

How has I-81 had an impact on your life?

What is your personal history with I-81?

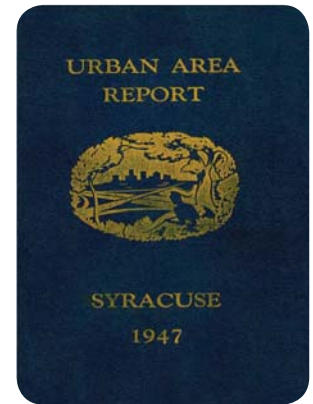
What do you remember about I-81's construction?





The Evolution of Transportation in the Syracuse Region

This video is about 17 minutes long



The video will
be shown on
the hour and
at :20 and :40
past each hour



Station 3

Deficiencies & Needs

These boards provided attendees with information about the current transportation system through informational boards and an interactive exercise. The boards presented information from the NYSDOT's "Technical Memorandum #1: Physical Conditions Analysis" and each was followed by an interactive question board and a chance for attendees to share their solutions.



Our transportation system today



The I-81 Physical Conditions Analysis

The I-81 Physical Conditions Analysis is one piece of *The I-81 Challenge*. It includes:

- A technical analysis of the highway’s existing physical and operational conditions
- A review of the existing land use, economic, and environmental context

MAP OF STUDY AREAS



WHY IS THERE MORE THAN ONE STUDY AREA?

The primary study area provides a narrow focus for the analysis of physical infrastructure (e.g. roadways, bridges, ramps) of I-81 and adjacent sections of I-690.

A broad view will help us understand I-81’s role and function in our region. We need to consider land use, economic development, and environmental issues within this broader regional context.

? The I-81 Traffic Challenge

Since 2003, traffic volumes on I-81 have grown at what annual rate?



- A: Little to no growth
- B: Between 2 and 5%
- C: Between 5 and 10%
- D: Greater than 10%

Answer: A

Available data indicates that there has been little to no growth in traffic volumes since 2003

During peak commute hours, trucks and buses make up what percent of total traffic on I-81?



- A: Less than 5%
- B: Between 5 and 10%
- C: Between 10 and 25%
- D: More than 25%



Answer: B

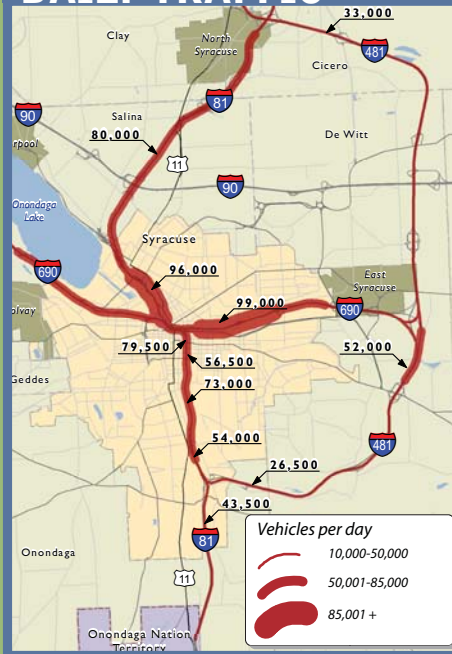
Trucks and buses make up 8.8% of total traffic during the morning rush hour and 7.5% during the evening rush hour

Traffic volumes on I-81

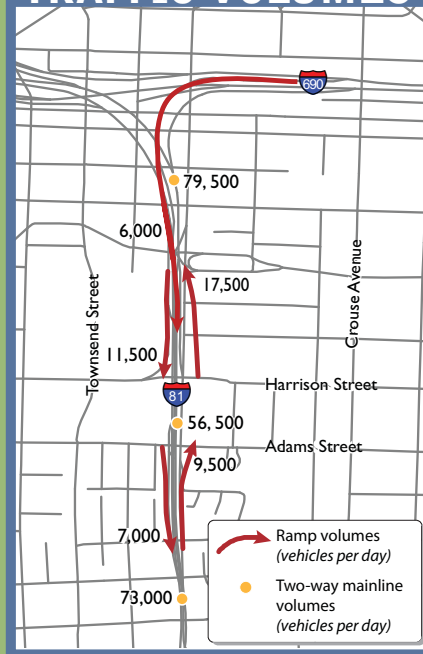


To determine how busy I-81 is, we calculate traffic volumes using vehicle counting stations

ANNUAL AVERAGE DAILY TRAFFIC



VIADUCT AREA TRAFFIC VOLUMES



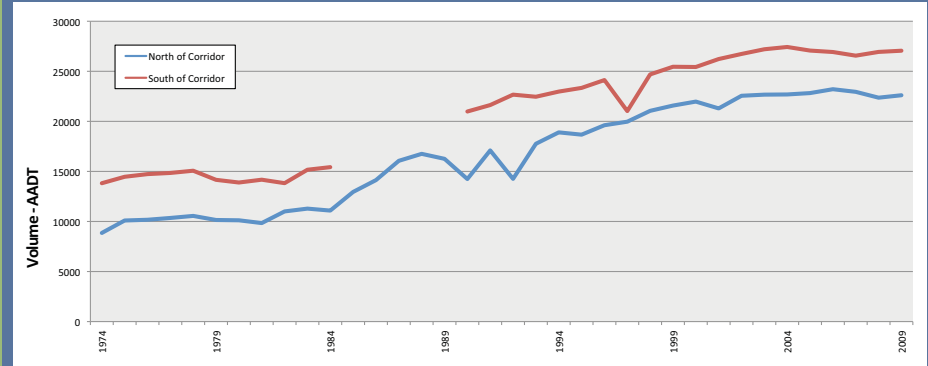
DID YOU KNOW?

- Between 1974 and 2003 traffic increased at an annual rate of 3.3 - 5.4%.
- Since 2003 there has been little if any growth in traffic volumes.
- July and August have the highest traffic volumes, while January and February have the lowest.
- Heavy vehicles (trucks with at least 4 axles and buses) account for 9% of total traffic during the morning rush hour and 8% during the evening rush hour.

WHAT IS AADT?

- Average Annual Daily Traffic—referred to commonly as AADT—is calculated by measuring the total number of vehicles passing a point or segment of a highway, in both directions, for one year, divided by the number of days in the year.

I-81 YEARLY TRAFFIC—2-WAY AADT



Note: No data available between 1985 and 1990 at the south station.

Data was collected at continuous count stations located approximately 15 miles north and approximately 10 miles south of the corridor.

? The I-81 Bridge Challenge

What percent of the 76 bridges in the I-81 corridor are not designed to current bridge standards or are in need of rehabilitation?



- A: Under 10%
- B: Between 10 and 30%
- C: Between 31 and 60%
- D: More than 60%

Answer: D

Forty-six of these bridges have lane widths, load carrying capacity, clearance, or approach-roadway alignments that do not meet current bridge standards. Seven bridges are in need of rehabilitation or replacement.

In 40 years, what percent of all bridges in the primary study area will have exceeded their expected service life?



- A: Under 25%
- B: Between 25 and 50%
- C: Between 51 and 75%
- D: More than 75%

Answer: D

By 2050, over 80% of the bridges in the study corridor will have met or exceeded their expected service life.

Highway & bridge conditions

NYS DOT conducts periodic inspections to determine pavement and bridge conditions

HIGHWAYS

A surface rating survey completed in 2008 found:

- The majority of the pavement in the primary study area to be in "good" condition
- However, given their age, the majority of the highways will need either a major rehabilitation or reconstruction by 2040

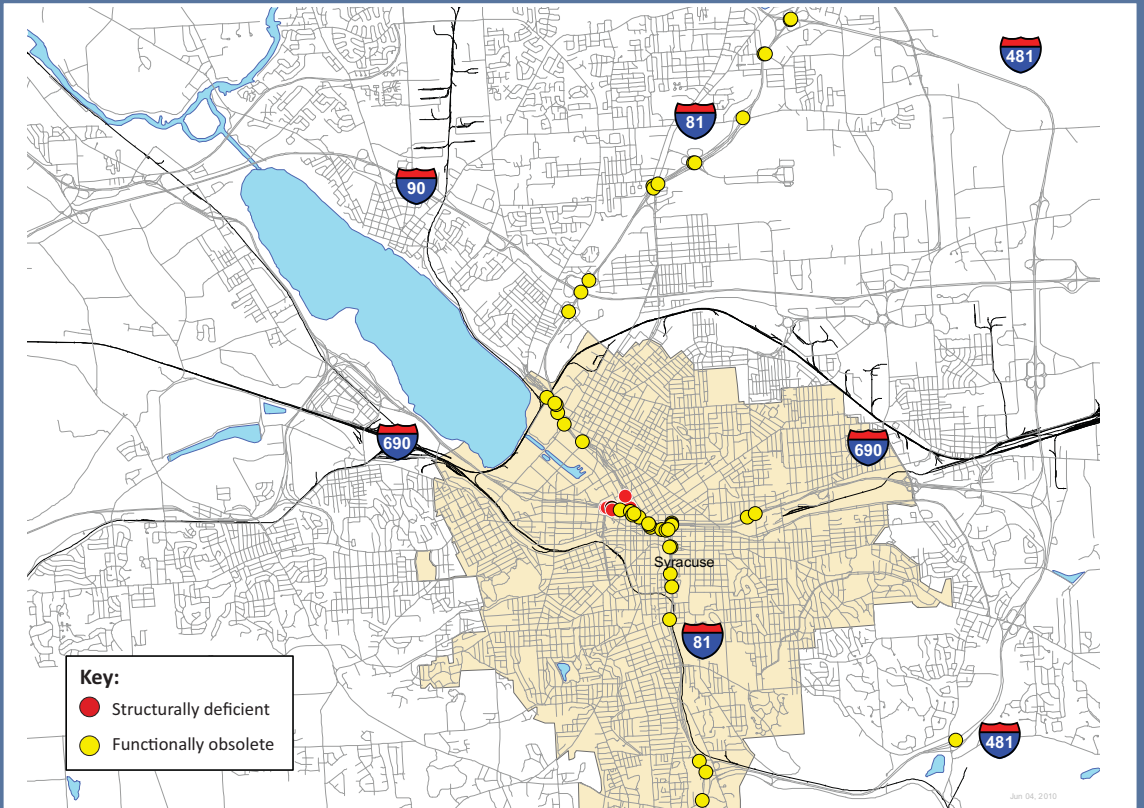
BRIDGES

Recent inspections of the 76 bridges in the primary study area showed that:

- 46 bridges classified as functionally obsolete do not meet current bridge design standards
 - 18 of these bridges are located in the viaduct section of I-81
- 7 bridges classified as structurally deficient are in need of major rehabilitation or replacement
 - 1 of these bridges is located in the viaduct section of I-81

Assuming only routine maintenance, most of these functionally obsolete and structurally deficient bridges will be in a state of serious deterioration by 2020

BRIDGE CONDITIONS



? The I-81 Safety and Congestion Challenge

Along the I-81 viaduct section in the northbound direction, how does the vehicle accident rate compare with the statewide average for similar expressways?

- A: Less than the statewide average
- B: The same as the statewide average
- C: Twice the statewide average
- D: More than 3 times the statewide average



Answer: D

The accident rate on the northbound Viaduct section is more than three times the statewide average

During the morning and evening peak hours, what is the average speed in either direction along the I-81 viaduct section?

- A: < 15 mph
- B: 15 - 25 mph
- C: 26 - 40 mph
- D: > 40 mph



Answer: B

Average speeds on the viaduct section of I-81 range between 18 and 23 mph during both the AM and PM rush hours

Design, congestion & safety deficiencies

SAFETY, CONGESTION, & DESIGN DEFICIENCIES



DESIGN

When I-81 was constructed in the 1950s and 1960s, highway design standards were different from today.

Significant portions of I-81 do not meet today's design standards. These areas have:

- poor sight distances
- sharp curves
- limited ramp spacing

CONGESTION

Highways within the Syracuse region generally have sufficient capacity for current traffic volumes.

Certain areas along I-690 and I-81 in the downtown area experience congestion and slow travel speeds during peak periods. Any disruption due to maintenance or accidents can cause severe traffic congestion.

SAFETY

Highways in the primary study area have a relatively high rate of accidents when compared to statewide averages.

Section of Highway	Accident rate compared to statewide average
Northbound viaduct	300%
I-81 through I-690 interchange	500%
81 north of I-690 (Carousel Center area)	200%

LOOK AT THE MAP

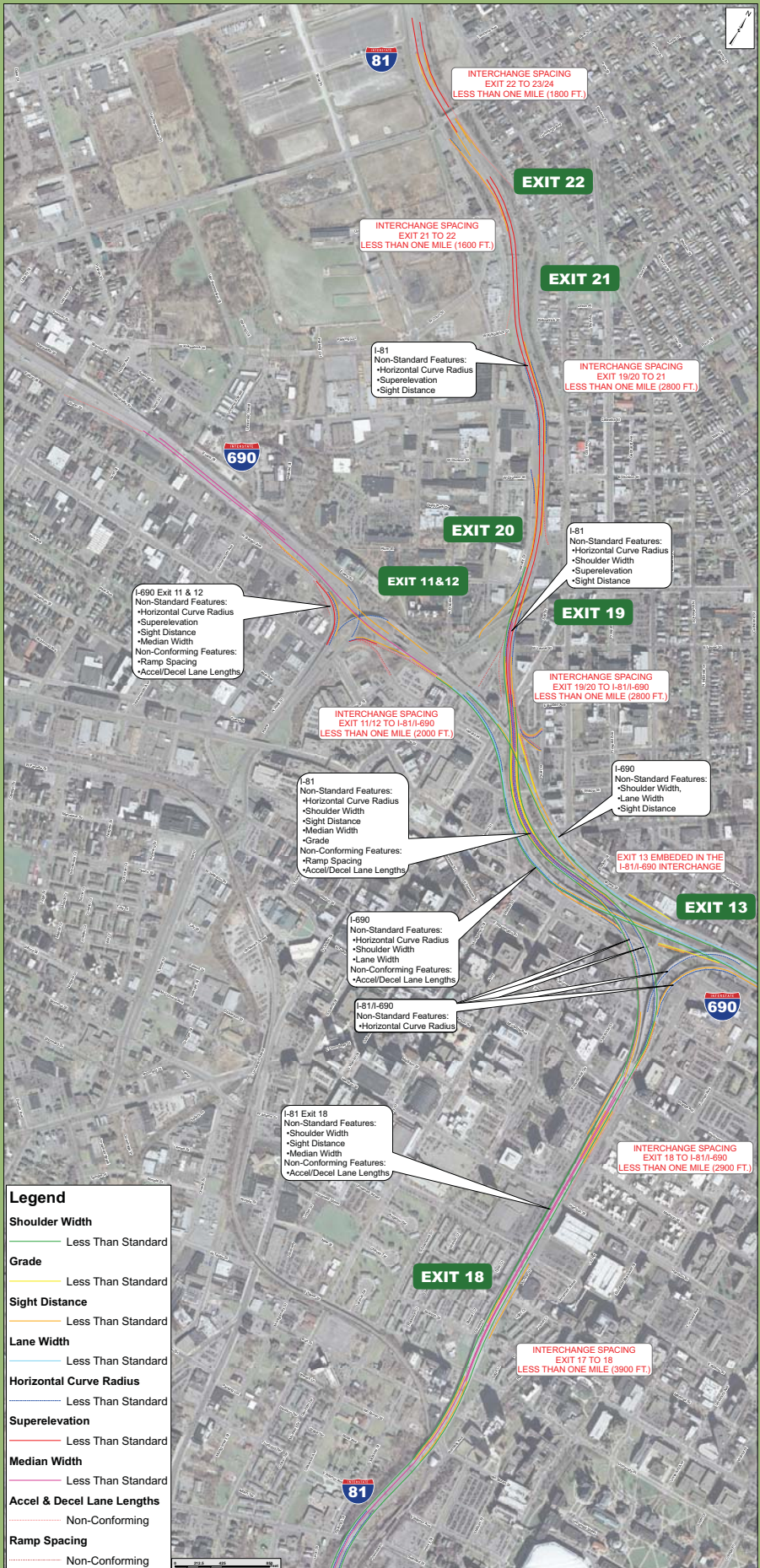
Do you see any correlation between design deficiencies, accident rates, and congestion? Highway sections not meeting current design standards generally coincide with areas of increased congestion and high accident rates.

WHAT IS LEVEL OF SERVICE?

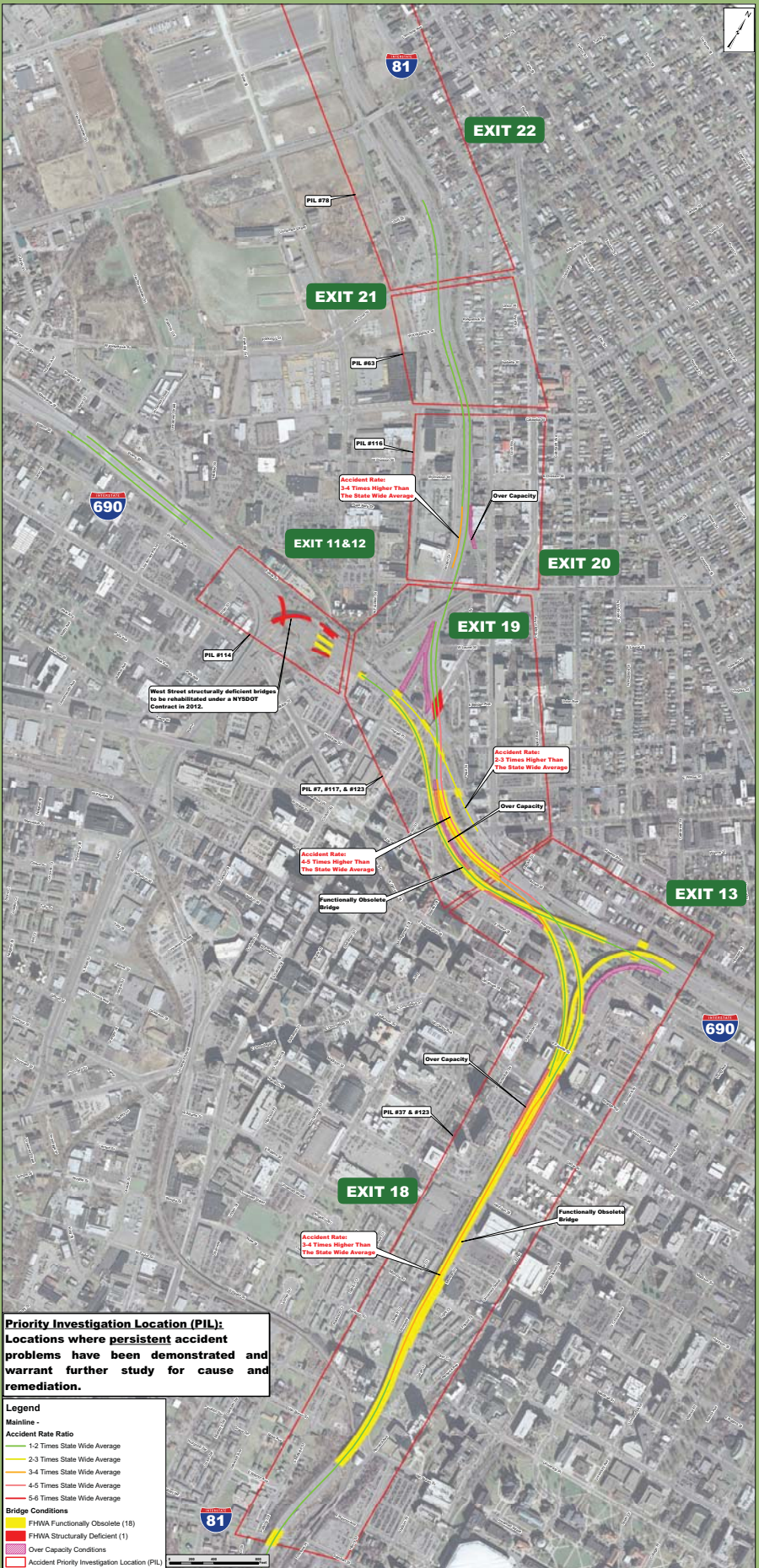
Level of Service (LOS) is a way of measuring how well traffic moves along a highway or through an interchange. Letter grades (A-F) are used to designate LOS. LOS A, B or C means there is sufficient highway capacity for the current traffic. Traffic flows well. LOS D, E or F means that traffic volume is approaching or exceeding capacity. Traffic slows down and delays occur.



Roadway deficiencies



Bridge, traffic and safety deficiencies



Priority Investigation Location (PIL):
 Locations where persistent accident problems have been demonstrated and warrant further study for cause and remediation.

- Legend**
- Mainline -**
 Accident Rate Ratio
 1-2 Times State Wide Average
 2-3 Times State Wide Average
 3-4 Times State Wide Average
 4-5 Times State Wide Average
 5-6 Times State Wide Average
- Bridge Conditions**
 FHWA Functionally Obsolete (18)
 FHWA Structurally Deficient (1)
 Over Capacity Conditions
 Accident Priority Investigation Location (PIL)

? I-81 Regional Traffic Challenge

On a typical day, 44,000 total vehicles travel on I-81 south of the southern I-481 interchange. What percent of this traffic, on average, passes through the Syracuse area on I-81 alone without stopping?



- A: Less than 10%
- B: Between 11 and 20%
- C: Between 21 and 30%
- D: More than 30%

Answer: A

About 6% (2,760 vehicles) of the 44,000 total vehicles pass through without stopping

Station 4

Understanding How Traffic Operates

This station provided basic information about traffic modeling and its role in transportation planning. Informational graphics illustrated how microsimulation models work and how a regional travel demand model predicts overall transportation demand throughout a system.



Regional interstate traffic on I-81

INTERSTATE THROUGH TRAFFIC



In April 2010, an analysis was done to understand how much I-81 traffic is passing through our region without stopping along 3 possible routes: I-81, I-81 to I-90 (Thruway) via I-690, and I-481

The data were collected on a typical weekday using Automated License Plate Reader cameras

The analysis revealed:

- 44,000 total vehicles per day on I-81 south of the southern I-481 interchange
- Of these 44,000 vehicles, 12% (5,400 vehicles per day) are currently traveling through the region without stopping

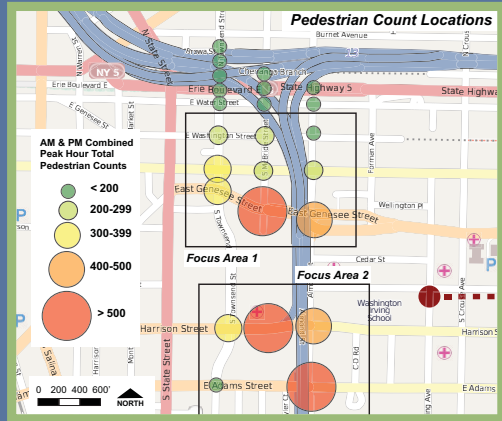
The results suggest that diverting regional interstate through traffic to I-481 or other alternative interstate routes will have little impact on I-81 through Syracuse



Additional traffic data is likely to be collected to assist in the assessment of different options for I-81

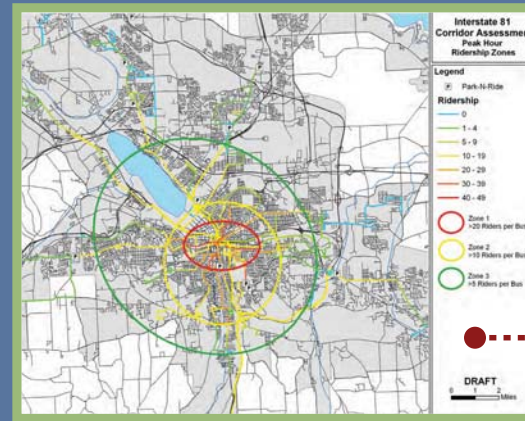
Planning for more than just cars

Networks of local streets, paths and trails provide space for pedestrians and bicyclists



Some of the busiest pedestrian areas are the Upstate Medical Center, Syracuse University, and the commercial, residential, and office area on East Genesee Street

Centro provides transit service for those without or who choose not to use a car



Centro operates almost 100 bus routes in Syracuse and Onondaga County

Our airport serves long distance travelers and allows for the shipment of goods



Hancock International Airport



Our rail system brings passengers and freight into and out of our region

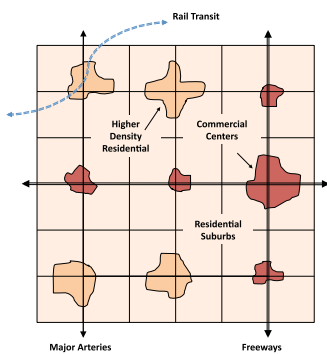


Syracuse Regional Transportation Center



Transportation modeling

You've probably seen or heard about models throughout your life – whether physical models such as a train or a building or more abstract models like those used to give us weather forecasts. What they have in common is that they represent real world objects or processes.



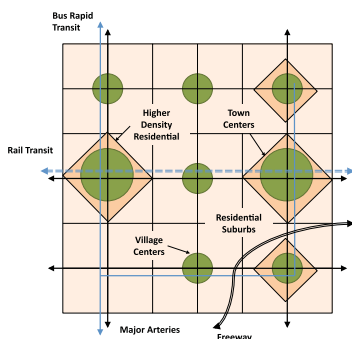
HOW DO THEY KNOW?

Ever heard that new transit service will take X number of cars off the road? Or that building a new road will cut travel time by X minutes? Ever wondered how planners know that?

It all comes from a model...



We also use models in transportation planning. These models are a series of complex mathematical equations that represent the choices, decisions, and behavior of thousands (or millions) of individual travelers.

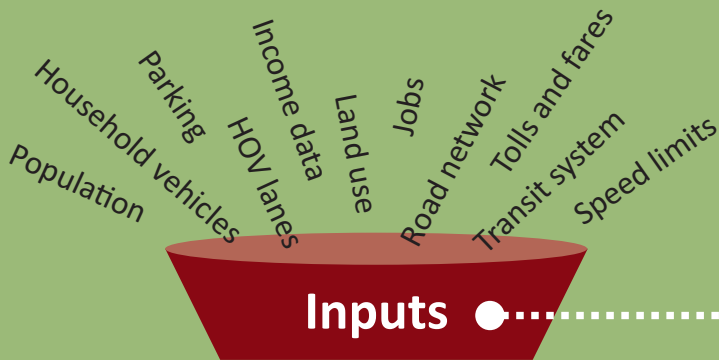


MODELS HELP US:

- Know where, when and how people are traveling
- Understand what and where our transportation needs are now and in the future
- Evaluate different strategies and investments to meet those needs
- Determine the impacts of strategies and investments on system performance, air quality, travel time, and land use, just to name a few

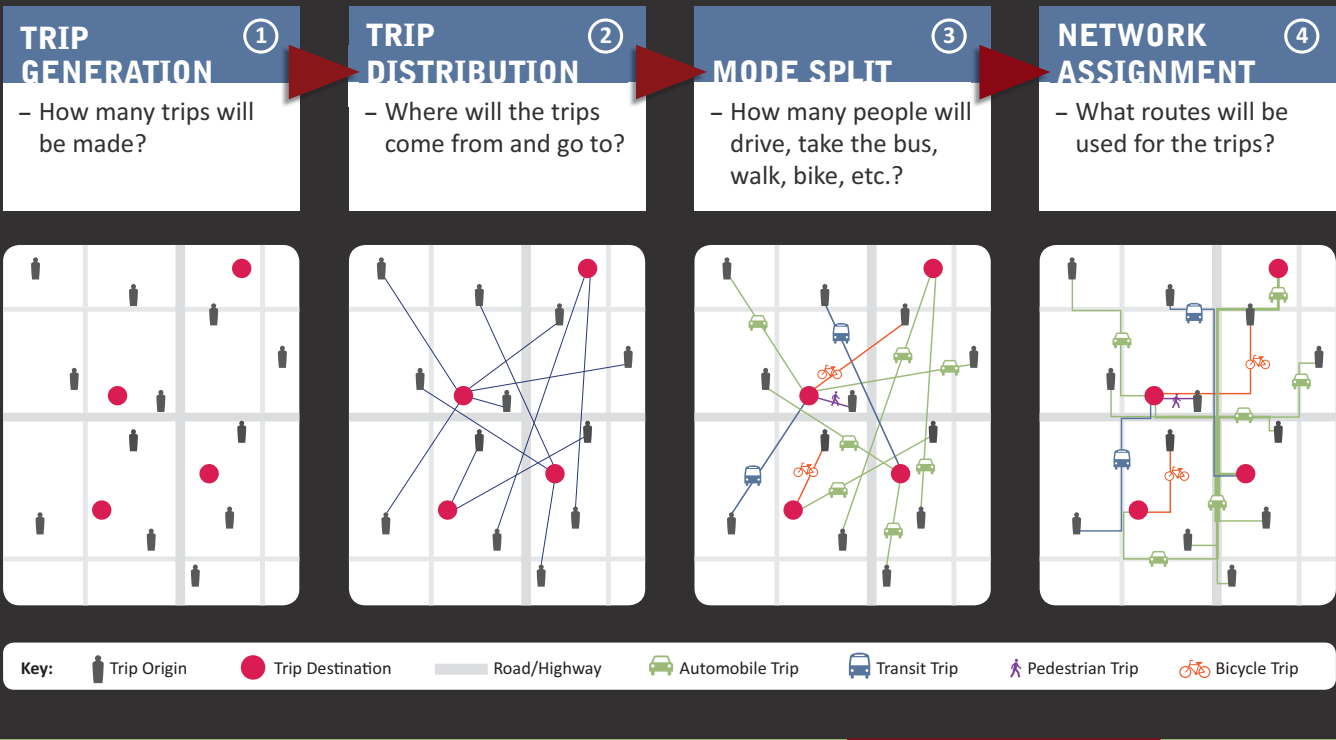
Regional Travel Demand Model

The Regional Travel Demand Model is a computer software package that replicates our regional transportation system

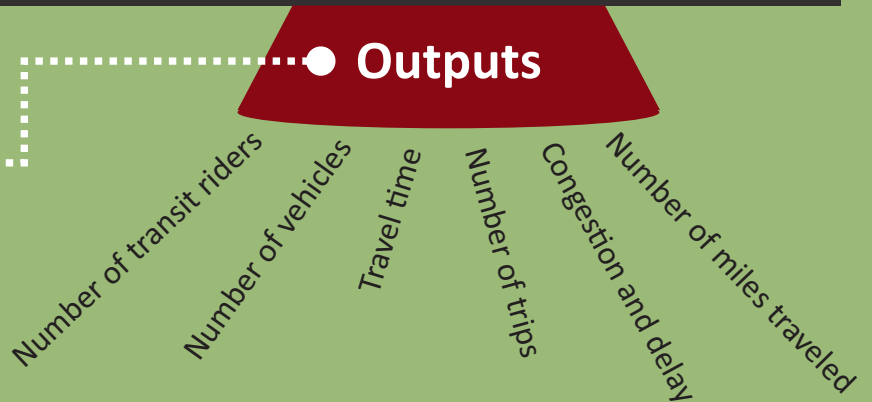


SMTC's model is a "Four Step Model" that takes inputs such as population and economic forecasts, the geographic dispersion of people and jobs throughout the region, and a description of the transportation system – the roads and transit system.

Regional Travel Demand Model



The model outputs, to be used in impact analyses to evaluate transportation system alternatives, include the amount of travel, the performance of the transportation system, and mode usage.



Modeling the future

The model can accurately replicate the existing conditions, and it can then be used to predict future travel patterns and demands based on changes in the transportation system, changes in the land use, and changing demographics

PROJECTED GROWTH IN TRAFFIC VOLUMES (2007 TO 2040)*

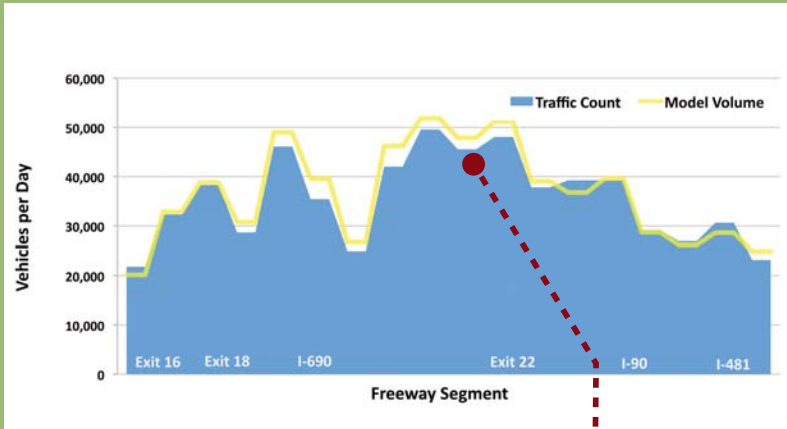


* Assumes no significant changes to I-81

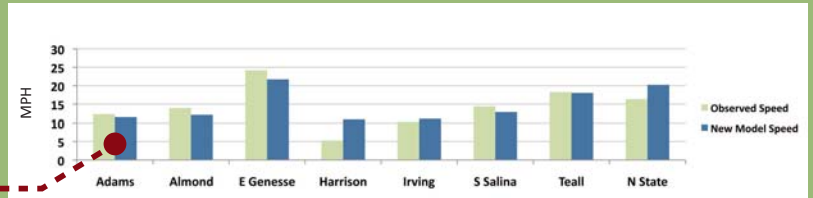
Modeling the present

The first step in using the Regional Travel Demand Model for The I-81 Challenge is to simulate the current “real world”

I-81 NORTHBOUND TRAFFIC FLOWS: TRAFFIC COUNTS AND MODELED VOLUMES



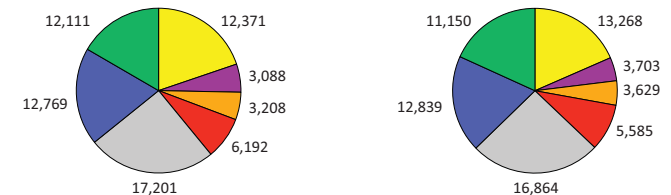
MODEL ARTERIAL SPEEDS COMPARED TO OBSERVED ARTERIAL SPEEDS



WHY THE DIFFERENCE?

Modeling peoples’ travel behavior is a difficult undertaking since behavior is variable and complex. Travel models are developed from and compared to a wide variety of data sources, so travel models can’t be expected to match any one source exactly.

DAILY WORK TRIPS BY DISTRICT GOING TO SYRACUSE: CENSUS DATA VS. MODEL OUTPUT



2000 Census

Model Output



- Camillus, Elbridge, Lysander, Van Buren
- Marcellus, Otisco, Skaneateles, Spafford
- Fabius, Lafayette, Pompey, Tully
- Onondaga, Onondaga Res
- Cicero, Clay
- Dewitt, Manlius
- Geddes, Salina



Microsimulation model

Microsimulation models allow us to understand detailed operational aspects of our transportation system. We can examine how traffic flows on a segment of highway, around a sharp curve, or through an intersection or interchange. While the regional model looks at overall demand, microsimulation models focus on the interactions and behaviors of individual vehicles.

What can we do with microsimulation models?

- Understand current operations on the highway: “How, why and where does congestion occur?”
- Evaluate the operational impacts of proposed changes: “What would happen if we changed X?”



Station 5

The Transportation-Land Use Relationship

This station began with a video explaining the complex relationship between transportation investments and land use impacts. The boards described the growth of American cities, the transportation-land use cycle, regional transportation and land use challenges, and the opportunities for positive change in the future while highlighting the region's trends.



How we got here

Transportation often defined towns



Streetcars turned towns to cities



Mass transit led to large cities



And then...our love affair with the car



GROWTH OF CITIES AND TOWNS

- The American city emerged from changes in the economy and means of travel
- Transportation allows access to development opportunities
- Transportation defined the location – and form - of our cities and towns
- Transportation and land use were in balance

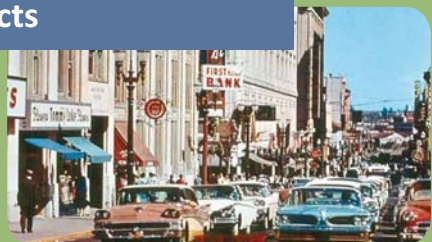
Unprecedented growth



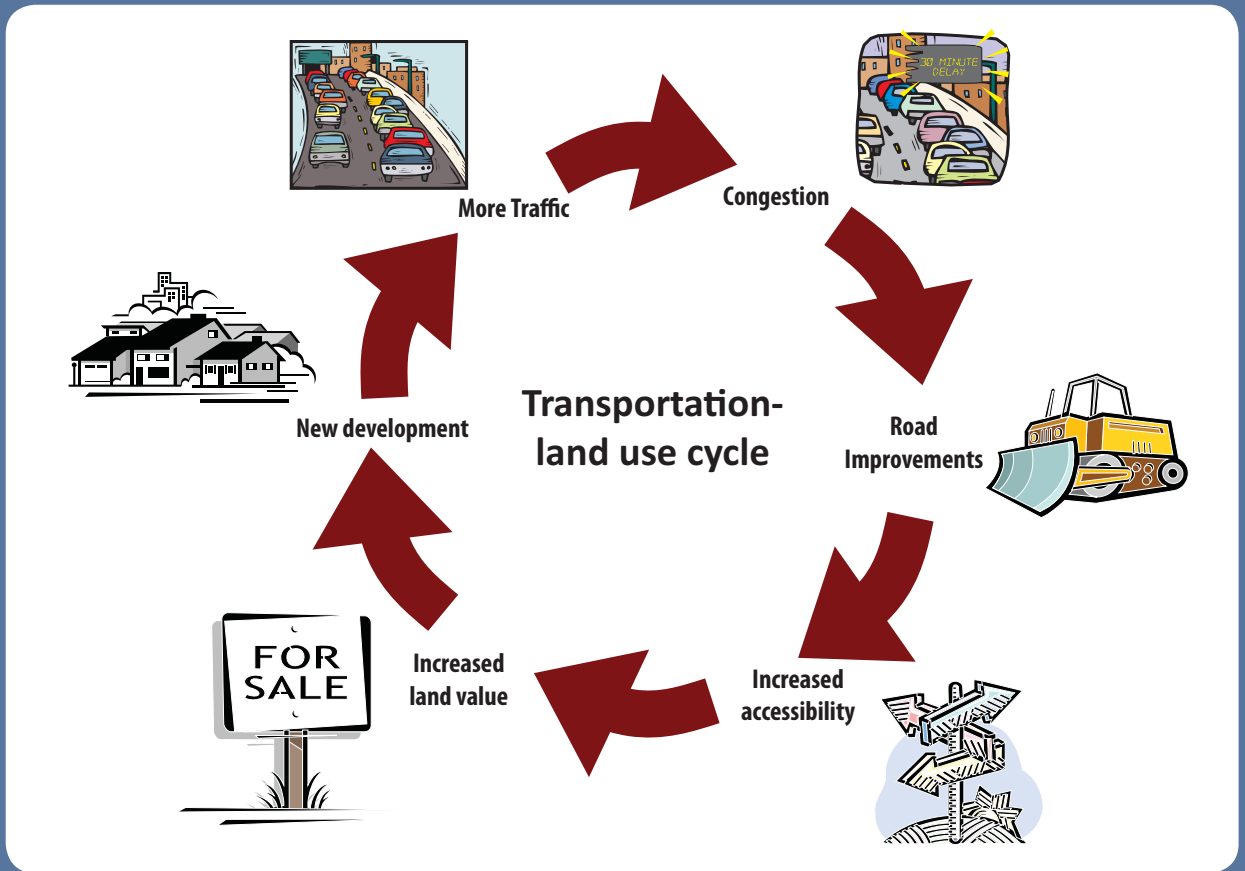
And the Eisenhower Interstate System led to...



Cities began to see the effects



The transportation-land use cycle



THE CYCLE RESULTS IN:

- Unanticipated Sprawl
- Decentralization
- Auto Dependency
- Overabundance of Parking
- Loss of green and farmland



RECENT CHANGES IN PERSPECTIVE:

- Re-balancing community and mobility needs
- Changing settlement patterns and travel modes
- Focusing on walkable, urban places

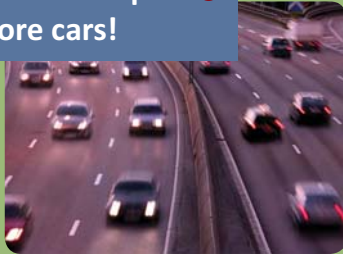


Regional trends

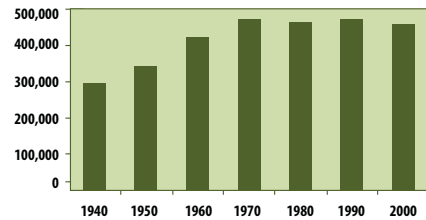
CHANGING DEMOGRAPHICS

- Steady population
- Fewer persons per household
- More households
- More vehicles per household
- Fewer transit and walking trips

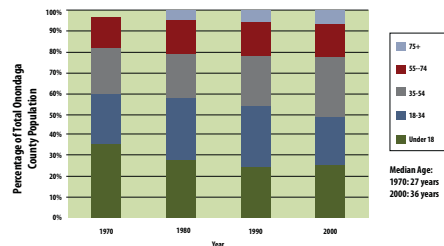
It all adds up to more cars!



Onondaga County Population 1940-2000



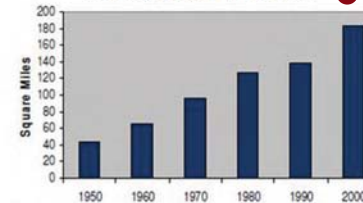
Age Breakdown of Onondaga County Population 1970-2000



EXPANDING URBANIZED AREA

- Urban land increased 92% since 1970
- 50 square miles added in the 90s alone
- City out-migration accelerated
- Rural towns began to suburbanize

US Census Syracuse Urbanized Area



Syracuse Urbanized Area 1990 & 2000



UPS AND DOWNS IN THE REGION

Towns 1970-2000

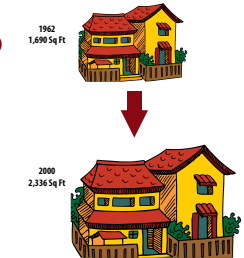
Population up 35,000
Households up 44,000
Housing Units up 47,000

City of Syracuse 1970-2000

Population down 50,000
Households down 8,000
Housing Units down 3,600

IMPACT ON TRANSPORTATION AND LAND USE

- Regionally, vehicle miles traveled are rising
- Average commute time has risen to 20 minutes
- Increased trend toward suburban growth
- Average rural lot size less than 8 units per acre
- Home size up 40%



Regional challenges and opportunities

Challenges



A reduction in farmland

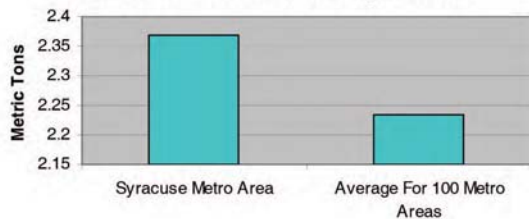


An inability to support mass transit



Demand for facilities and public services in new areas

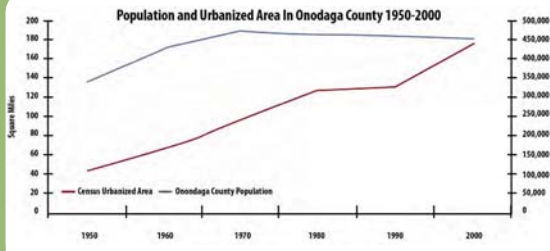
Carbon Emissions Per Capita, 2005



Increased driving and a larger carbon footprint



Abandoned neighborhoods and buildings



Spreading our tax dollars over a large area

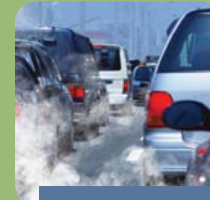


Concentrations of poverty



Economic competitiveness

Opportunities



Focus on climate change and reducing pollution



Rising fuel cost = more interest in other modes/fuel efficiency



Connections between land use and public health



Government modernization and efficiency



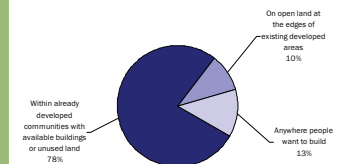
Smart growth



Protection of natural resources

Location of New Development

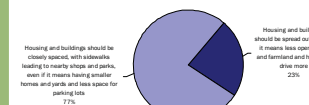
Please tell us where most future development in Onondaga County should be located.



Source: Community Planning and Transportation Public Survey, Nov 2010

Model of New Development

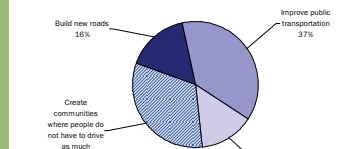
Please tell us how future development in Onondaga County should be arranged.



Source: Community Planning and Transportation Public Survey, Nov 2010

Solutions to Congestion

In your opinion, which of the following do you think is the best long-term solution to reducing traffic congestion in Onondaga County?



Source: Community Planning and Transportation Public Survey, Nov 2010

Smart growth

Smart growth is well-planned development that protects open space and farmland, revitalizes communities, keeps housing affordable and provides more transportation choices.



What smart growth “is” and “is not”:

- More transportation choices and less traffic ———▶ **Not** against cars and roads
- Vibrant cities, suburbs, and towns ———▶ **Not** anti-suburban
- Wider variety of housing choices ———▶ **Not** about telling people where or how to live
- Well-planned growth that improves quality of life ———▶ **Not** against growth

SMART GROWTH BENEFITS:

- Reduce Vehicle Miles Traveled (VMT) up to 30%
- Reduce Green House Gas (GHG) up to 10%
- Modest density shift and no new technology
- Broadened mobility choices
- Renewable energy sources
- New technologies
- Environmental restoration

RESIDENTS IN SMART GROWTH COMMUNITIES:

- Make 1.6 fewer auto trips per day
- Travel almost 15 fewer miles per day
- Make 1.8 fewer trips outside the neighborhood each day

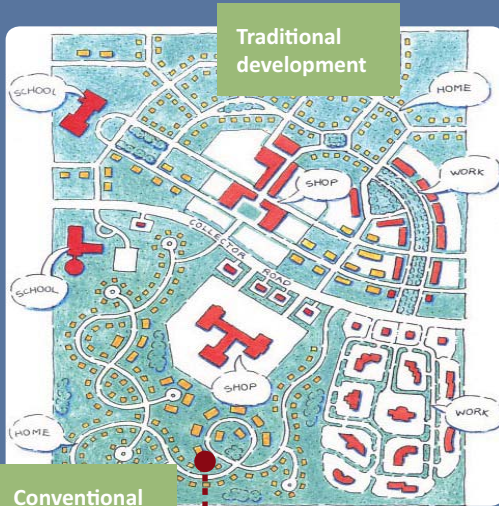
Regional residents say they...

- Strongly support Smart Growth concepts
- Support preservation of and investments in existing resources
- Support planning for future growth
- Strongly tend towards single occupant vehicles
- Are satisfied with overall transportation system
- Are dissatisfied with conditions and non-auto options
- Are interested in exploring transportation options

Source: Community Planning and Transportation Public Survey, Nov 2010



Neighborhood design



Traditional development

Conventional development

NEIGHBORHOOD DESIGN MATTERS

In traditional development patterns, uses are mixed within walkable distances. This denser type of development:

- Preserves open space
- Allows for a variety of housing types
- Minimizes infrastructure costs
- Allows short trips to be made without a car

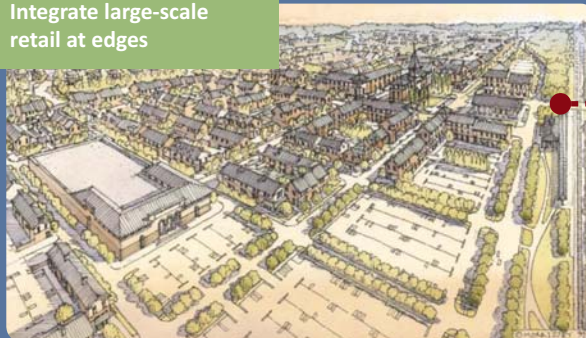
Traditional rural hamlet



Add mixed-use & single family housing



Integrate large-scale retail at edges

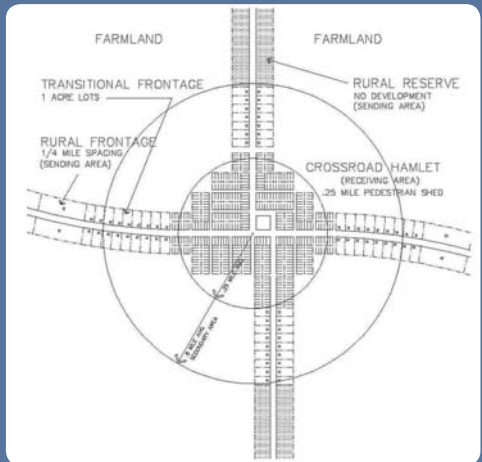


DEVELOPING IN A TRADITIONAL PATTERN

Here we see an example of a “crossroads” where two major roads intersect in a rural community. This community has already developed a public green and some surrounding mixed-use buildings.

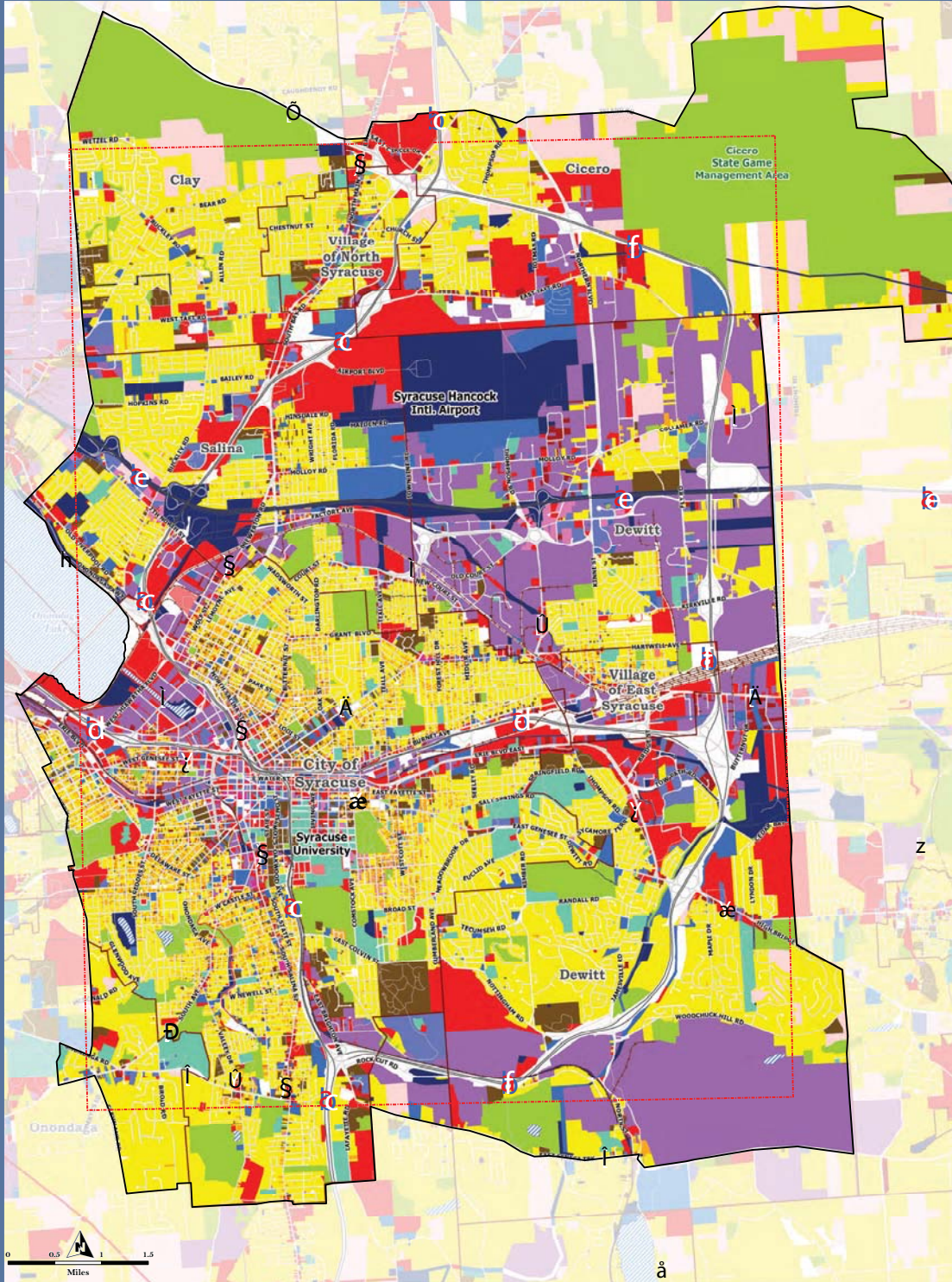
The next step is to develop additional mixed-use space as well as traditional single-family housing. In a village, the density of development increases from the edge to the center – all within a walkable distance.

This type of development can even incorporate large-scale retail, by integrating the big-box site at the edge of the village – accessible by both car and by the local network of sidewalks.



Current land use

EXISTING LAND USE IN THE STUDY AREA



Legend	
	Residential (Low Density)
	Residential (Medium Density)
	Residential (High Density)
	Downtown Commercial
	Commercial
	Neighborhood Commercial
	Tourist Commercial
	Large Scale Entertainment
	Industrial
	Institutional
	Transportation, Communication & Utilities
	Medical & Educational
	Agricultural
	Office
	Recreation / Open Space
	Water Body
	Social, Economic and Environmental Study Area
	Municipal Boundary
	Limits of Demographics and Population
	Railroads

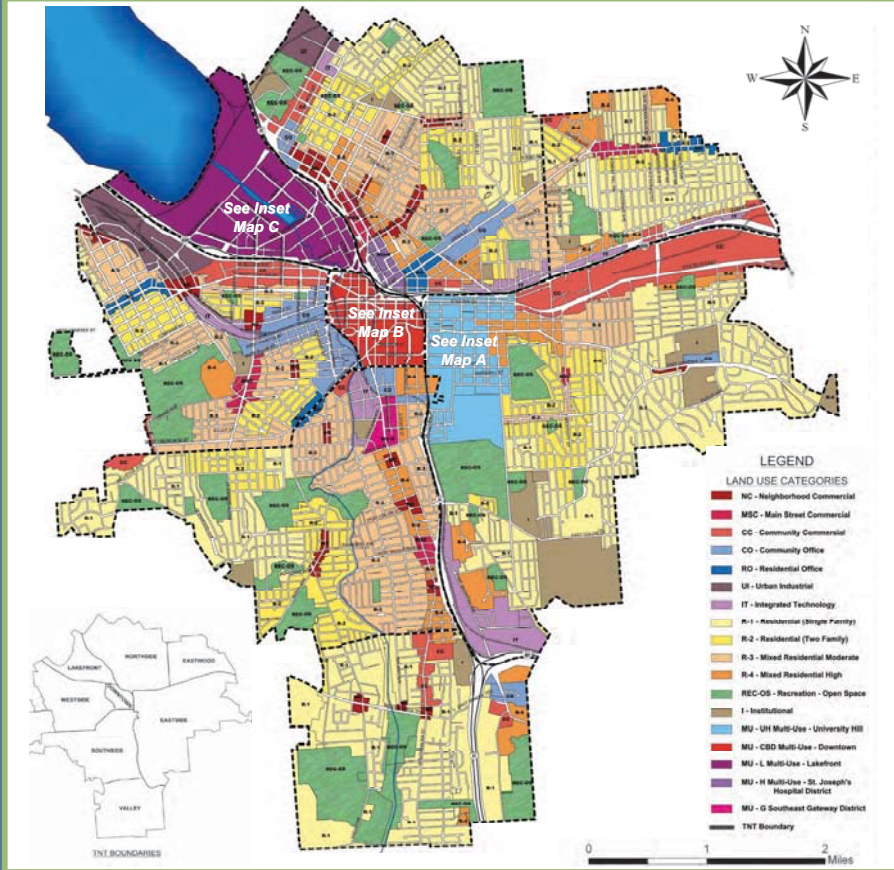
New York State DOT
I-81 Corridor Study

Study Area Boundary and
Existing Land Use Map

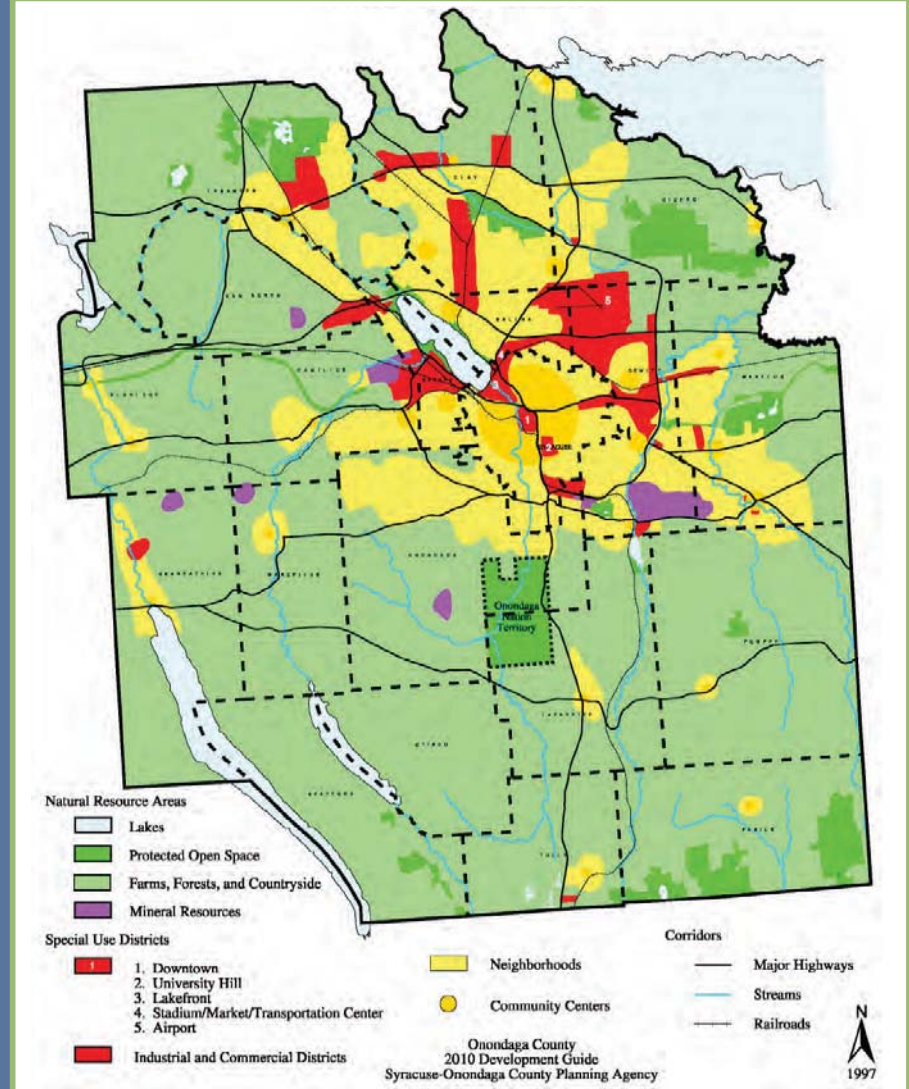


Future land use

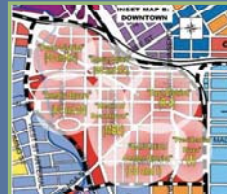
CITY OF SYRACUSE LAND USE PLAN



LAND USE VISION



Inset Maps: Multi-Use Districts



Population & employment

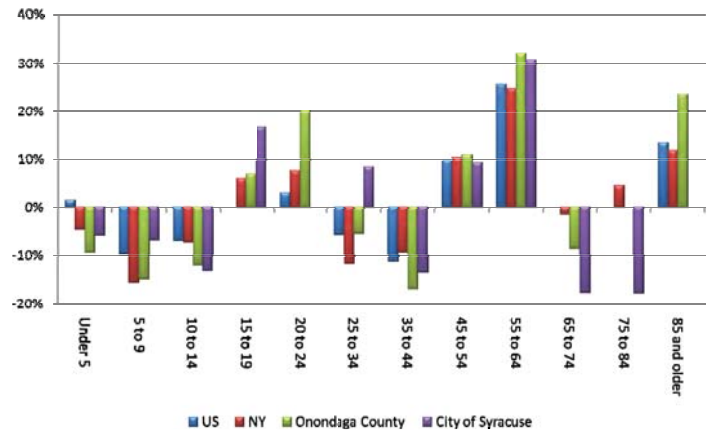
POPULATION

- The overall City of Syracuse and Onondaga County population has declined steadily since 1990
- Between 1980 and 2000, upstate New York lost roughly 20% of people aged 20 to 34
- The largest increase in population for City of Syracuse is among 55 to 64 year olds, up 30.8% since 2000, reflecting the large baby boom population entering this age bracket
- 30% of City of Syracuse's population is under 19 years old

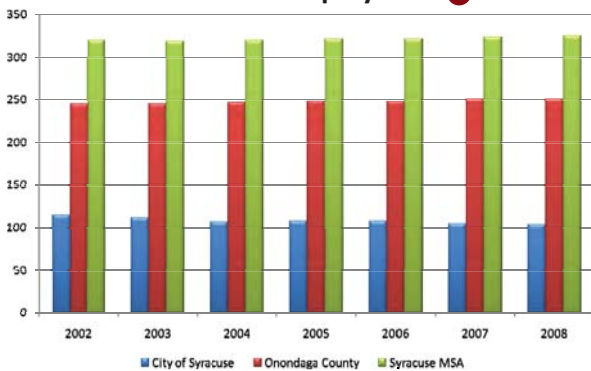
Population

	1990	2000	2008	% Growth from 1990 to 2008
United States	248,709,873	281,421,906	304,374,846	22.4%
New York State	17,990,455	18,976,457	19,541,453	8.6%
Onondaga County	468,973	458,336	452,633	-3.5%
City of Syracuse	163,860	147,306	138,068	-15.7%

Population Change by Age



Total Employees



TOTAL EMPLOYEES

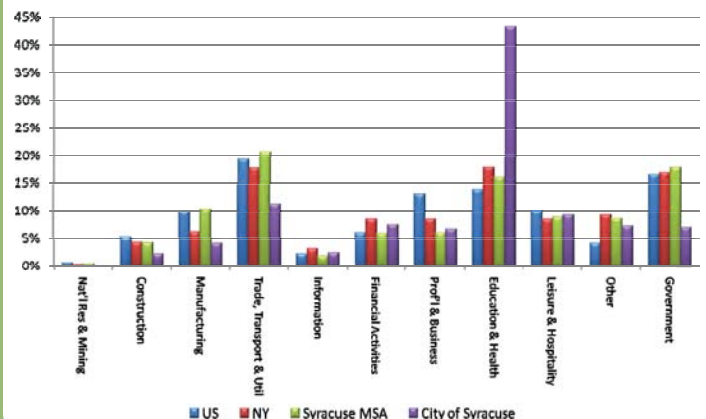
- Total employment in the City of Syracuse has decreased 9.6% between 2002 and 2008, from 114,134 to 103,227
- More than 94% of Onondaga County's working residents also work in the county



PERCENT OF EMPLOYMENT BY INDUSTRY

- Education and health sector represents 43.2% of total employment in Syracuse, or 44,590 employees
- Syracuse University and the State University of New York (SUNY) Upstate Medical University, employ more than 12,300 people

Percent of Employment by Industry 2008

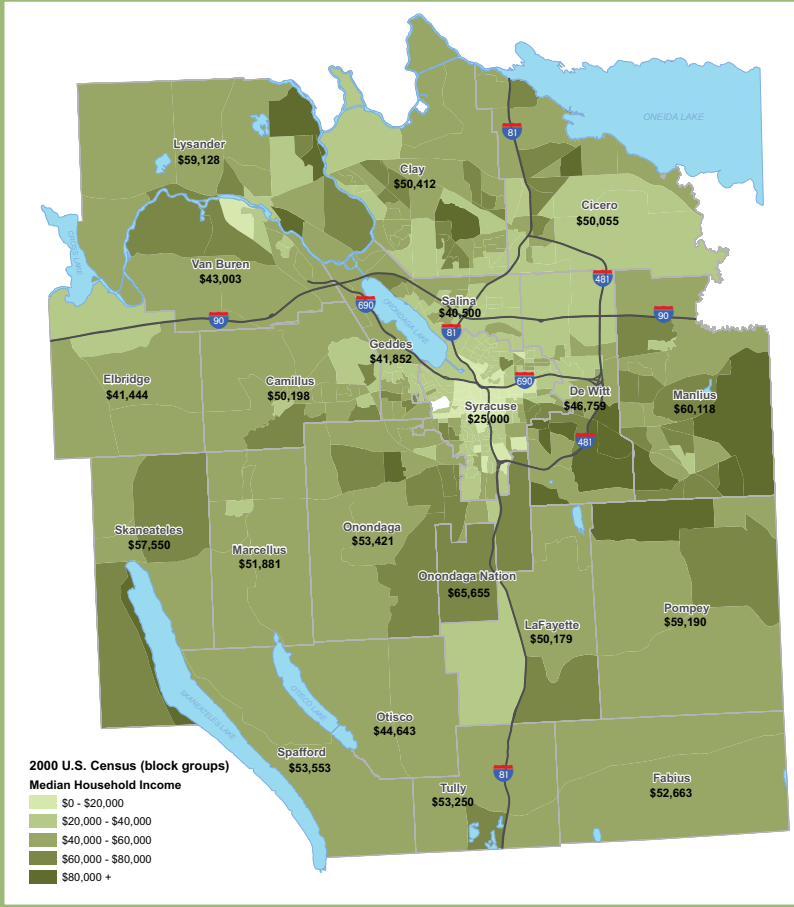


A closer look at population

POPULATION DENSITY BY TOWN

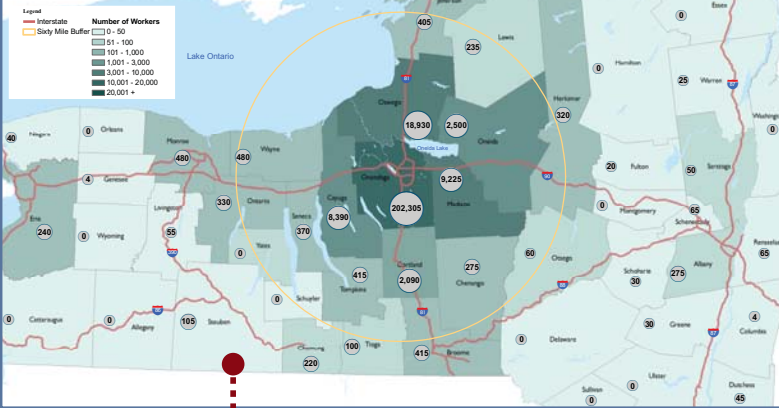


MEDIAN HOUSEHOLD INCOME BY TOWN

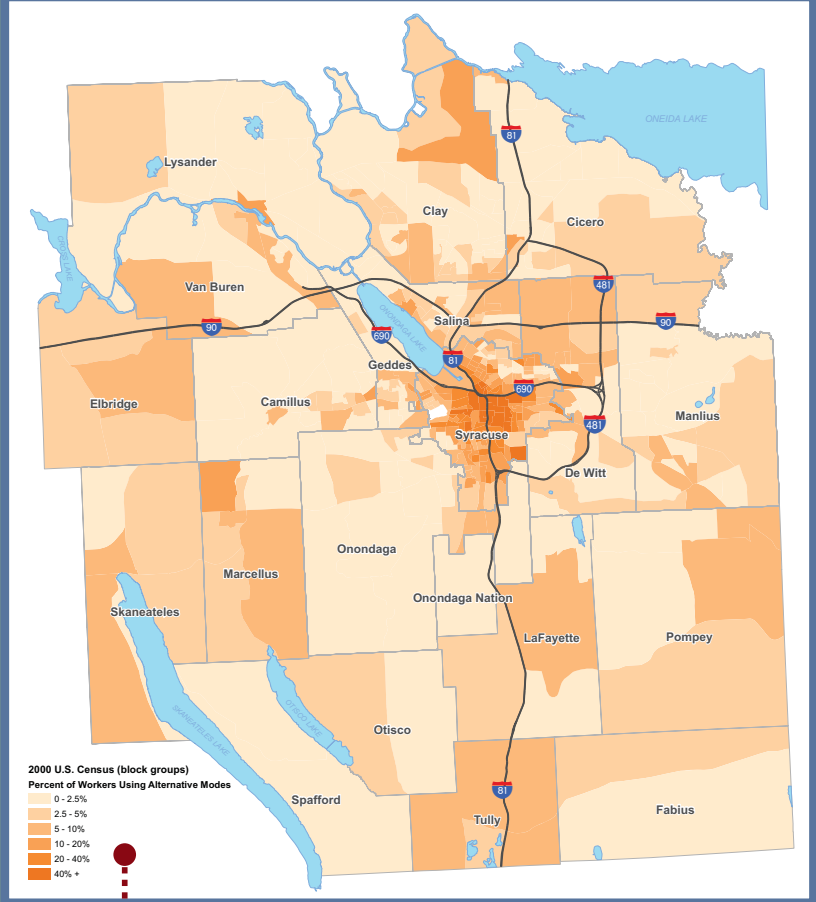


Regional commuting patterns

WORKERS COMMUTING TO ONONDAGA COUNTY



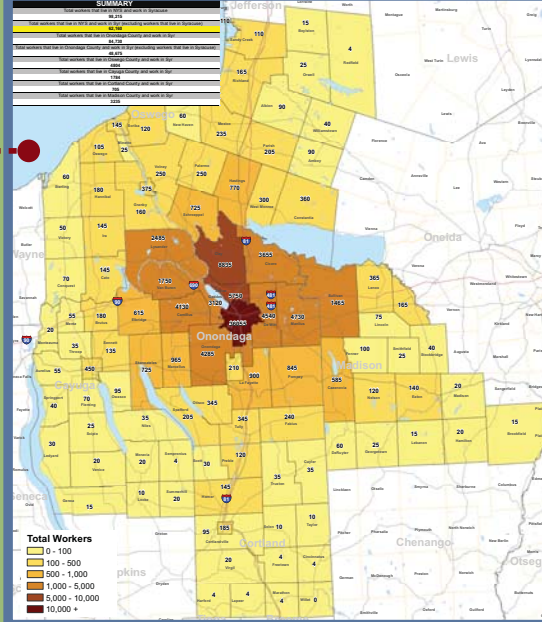
PERCENT COMMUTING BY ALTERNATIVE MODES



COMMUTE PATTERNS

Onondaga County is a regional employment hub, and many of Onondaga County's jobs are located in the City of Syracuse.

WORKERS COMMUTING TO SYRACUSE

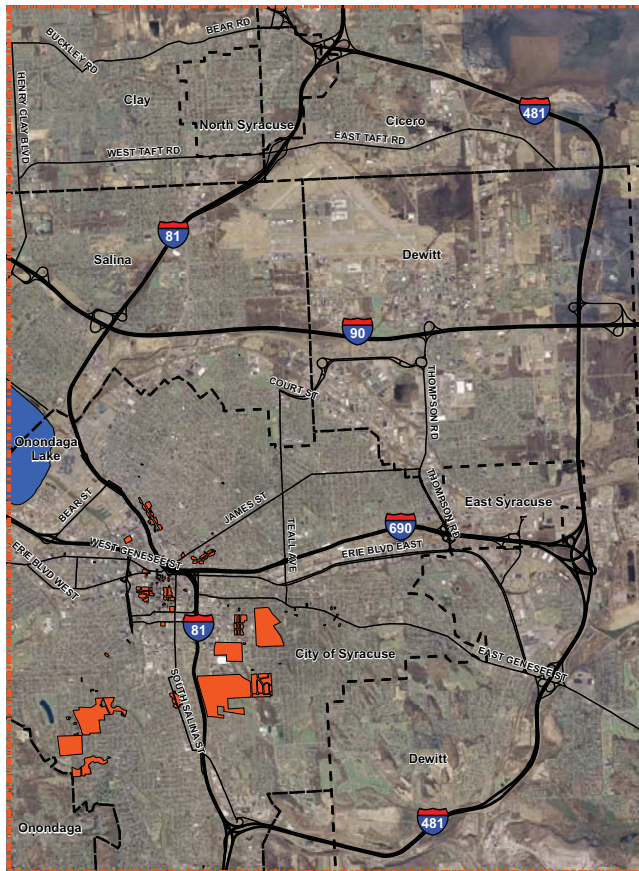


USE OF ALTERNATIVE MODES

In 2000, the highest percentages of commuters using alternative modes (i.e., biking, walking, riding a motorcycle, or taking transit) were found in the City of Syracuse.

Cultural resources

HISTORIC RESOURCES IN THE I-81 CORRIDOR



Interstate 81
Corridor Assessment
Historic Resources

Legend

- SEE Study Area
 - Historic Resources*
 - Municipal Boundary
- * Historic Buildings, Structures, and Districts listed in the National Register of Historic Places

ARCHAEOLOGICAL RESOURCES

In total, 54 archaeological sites have been reported within the I-81 study area, including prehistoric (Native American), and historic period sites. The I-81 viaduct is located in what is considered an archaeological sensitive area, and may require further investigation to identify additional archeological resources.



HISTORIC BUILDINGS, STRUCTURES, AND DISTRICTS

The City of Syracuse is home to several historic buildings, structures, and districts that reflect elements of major architectural movements spanning a period of over 100 years. Many of these significant resources were constructed during the heyday of the Erie Canal, and they reflect the city's important role as a center of commerce and capital during the mid-to-late 1800s and early 1900s.

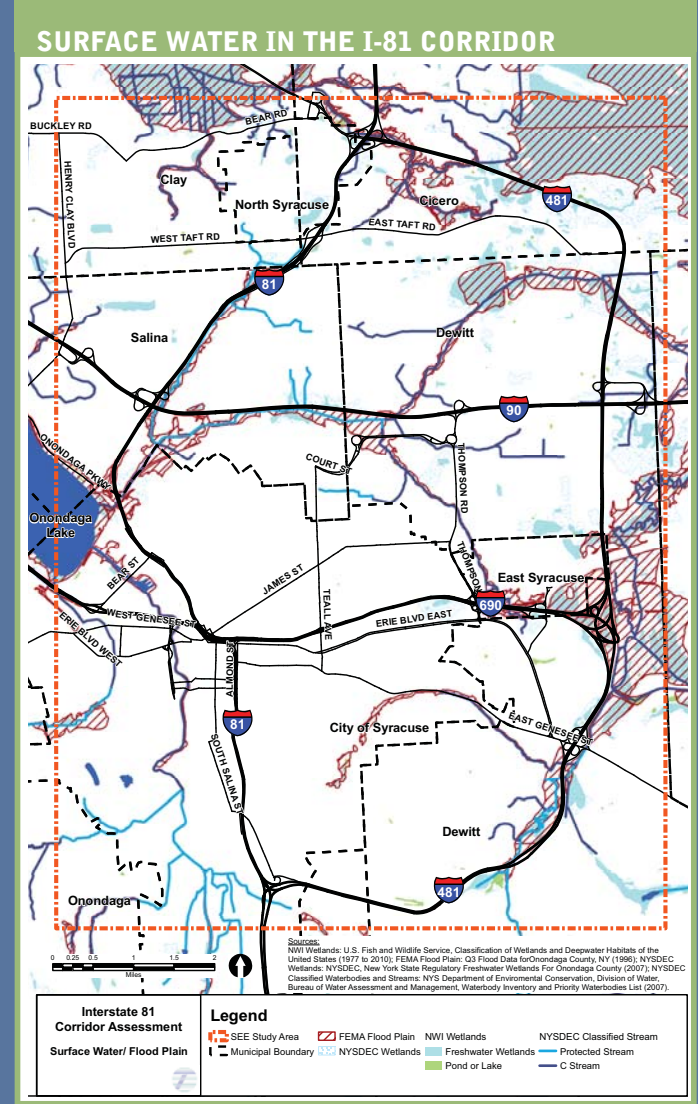
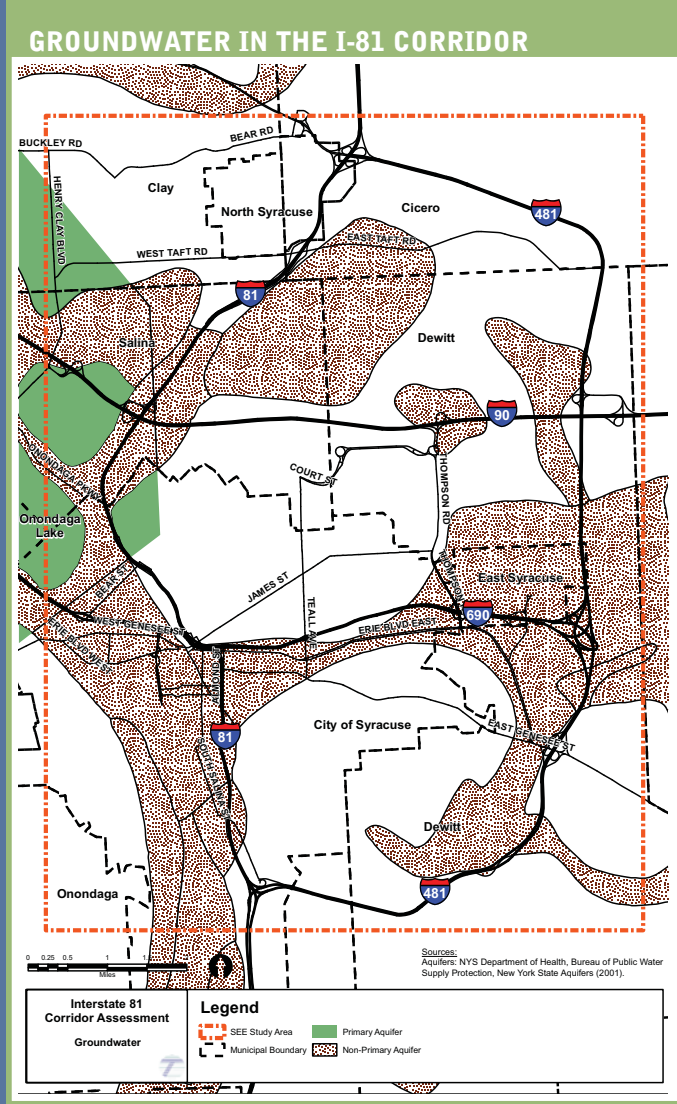
At a local level, the City of Syracuse has designated several Local Preservation Districts and Protected Sites (individually listed properties) that include historic buildings and structures.



NATIONAL AND STATE HERITAGE AREAS

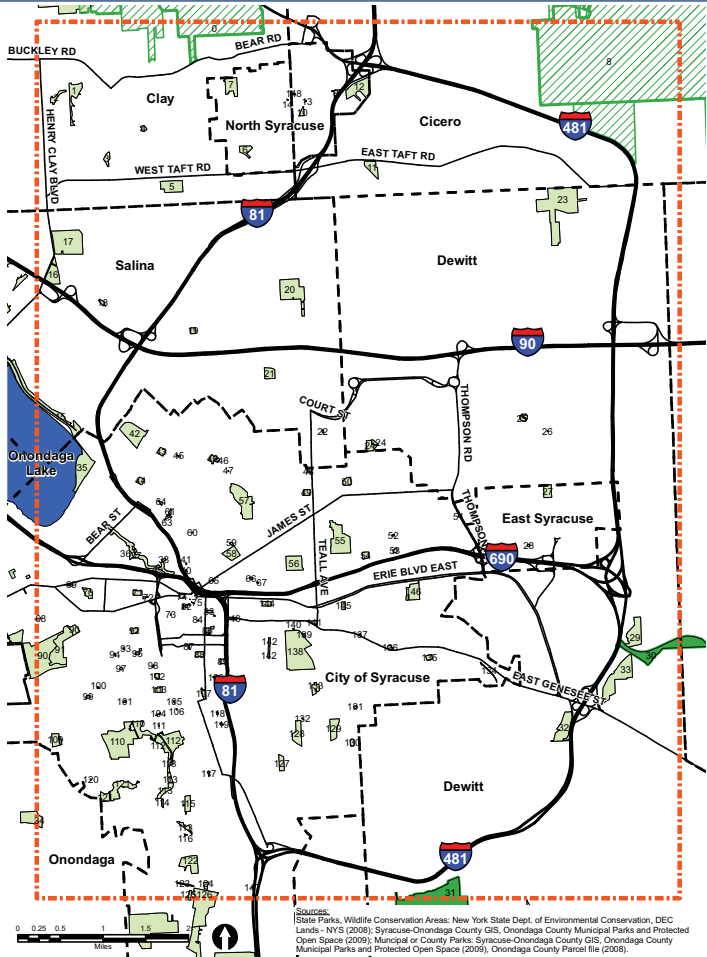
The Erie Canalway National Heritage area encompasses the I-81 study area and includes all 234 municipalities adjoining the 524 miles of navigable waterway that comprise the New York State Canal System. The state-designated Syracuse Heritage Area focuses on the original trade and banking centers in present-day downtown Syracuse and highlights the unique historical and cultural features of downtown Syracuse.

Water resources



Parks & wildlife

I-81 CORRIDOR PARKS AND WILDLIFE ASSESSMENT

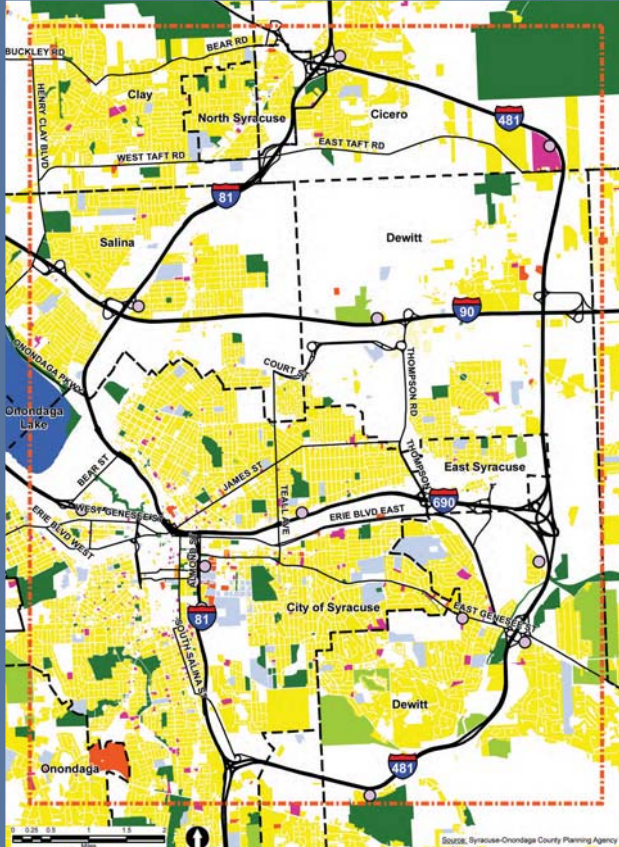


PARK REFERENCE NUMBER KEY

0	CLAY MARSH STATE WILDLIFE MANAGEMENT AREA	50	CUMMINGS FIELD	100	ELLIOTT PARK
1	CLEARVIEW PARK	51	GLENCOVE PARK	101	MERRY WIDOW PARK
2	CLAIRMONT PARK	52	EASTWOOD SENIOR CENTER	102	JUBILEE PARK
3	MERRILL FARMS PARK	53	SHERIDAN PLAYGROUND	103	SOUTHWEST COMMUNITY CENTER
4	BRIARWOOD PARK	54	HUNTINGTON PARK	104	ONONDAGA CREEK PARK
5	CLAY PARK SOUTH	55	SUNNYCREST PARK	105	BLAINE PLAYLOT
6	LONERGAN PARK	56	LINCOLN PARK	106	FURMAN PARK
7	HERITAGE PARK	57	SCHILLER PARK	107	CASTLE & STATE PARK
8	CICERO SWAMP STATE WILDLIFE MANAGEMENT AREA	58	ROSE HILL	108	CENTRAL VILLAGE YOUTH CENTER
9	KENNEDY PARK	59	HIGHLAND PARK	109	WADSWORTH PARK
10	CENTERVILLE PARK	60	AMOS PARK	110	ONONDAGA PARK
11	SKYWAY PARK	61	DEMONG PARK	111	CITY PARK
12	SLEETH PARK	62	UPPER UNION PARK	112	KIRK PARK
13	MEMORIAL PARK	63	UNION PARK	113	ONONDAGA CREEK BLVD. PARK
14	GOETTEL PARK	64	GROSSO PARK	114	ONONDAGA CREEK PARK
15	ONONDAGA LAKE PARK	65	BAGG PLACE PARK	115	MCKINLEY PARK
16	ELECTRONICS PARKWAY PARK	66	CLINTON PLAYGROUND	116	ABBOTT PARK
17	HOPKINS ROAD PARK	67	FINNEGAN PARK	117	CANNON STREET PARK
18	PRIMROSE PARK	68	TIPPERARY HILL PARK	118	DANFORTH PARK
19	RICHFIELD PARK	69	PULASKI & KOSCIUSKO PARK	119	BAKER PLAYGROUND
20	BURNHAM PARK	70	FRAZER PARK	120	GLENWOOD PARK
21	SEHR PARK	71	LEAVENWORTH PARK	121	ELMWOOD PARK
22	SCHAFFER PARK	72	BARKER SQUARE	122	VAN DUYN FIELD
23	MAXWELL PARK	73	ARMORY SQUARE PARK	123	ONONDAGA VILLAGE GREEN
24	NORWOOD PARK	74	CLINTON SQUARE	124	BOB CECILE SR. CENTER
25	FRANKLIN PARK	75	CITY PLACE	125	AND PLAYGROUND
26	DUNROVIN PARK	76	BRUCE PARK	126	ACADEMY GREEN PARK
27	ELLIS PARK	77	VANDERBILT SQUARE	127	MEACHEM FIELD
28	BAGG STREET PARK	78	PERSEVERANCE PARK	128	COMFORT TYLER PARK
29	RYDER PARK	79	LINCOLN PLAZA	129	MORNINGSIDE HEIGHTS PARK
30	CEDAR BAY PARK	80	PITTS PARK	130	BARRY PARK
31	CLARK RESERVATION STATE PARK	81	HANOVER SQUARE	130	SHERMAN FIELD
32	RICHARDS PARK	82	IDA BENDERSON SENIOR CENTER	131	CUMBERLAND PARK
33	BUTTERNUT CREEK NATURE AREA	83	FAYETTE FIREFIGHTERS MEMORIAL PARK	132	BERKELEY PARK
34	SANTARO PARK	84	COLUMBUS CIRCLE	133	WESTMINSTER PARK
35	ONONDAGA LAKE PARK	85	GENESEE TOWNSEND PLAZA	134	DEWITT PARK
36	WHITE OAKS PARK	86	COMMUNITY PLAZA	135	NOTTINGHAM COURTS
37	CREEKWALK AREA	87	BILLINGS PARK	136	EDGEHILL PARK
38	FRANKLIN SQUARE PARK	88	ROESLER PARK	137	SALT SPRINGS PARK
39	PLUM ST. CIRCLE	89	WILSON PARK	138	THORN DEN PARK
40	ASHLAND PARK	90	BURNET PARK	139	LODI CEMETERY
41	SCHLOSSER PARK	91	ROSAMOND GIFFORD ZOO	140	FORBES PARK
42	ALLIANCE BANK STADIUM	92	SKIDDY PARK	141	COLUMBUS PARK
43	FIRST WARD CEMETERY	93	SEYMOUR PLAYGROUND	142	COMSTOCK PARK
44	WASHINGTON SQUARE PARK	94	SHONNARD PLAYScape	143	FORMAN PARK
45	ALVORD PARK	95	WARD BAKERY PARK	144	SPENCER PARK
46	MCCHESENEY PARK	96	SHONNARD STREET CENTER	145	WESTMORELAND PARK
47	DUGUID PARK	97	GRACE PLAYScape	146	HOMER WHEATON PARK
48	FEIGEL PARK	98	TRINITY PARK	147	ARSENAL PARK
49	GRAY AVENUE PARK	99	ONONDAGA-GEDDES PLAYGROUND	148	VETERANS MEMORIAL PARK

Noise & air quality

NOISE SENSITIVE RECEPTORS



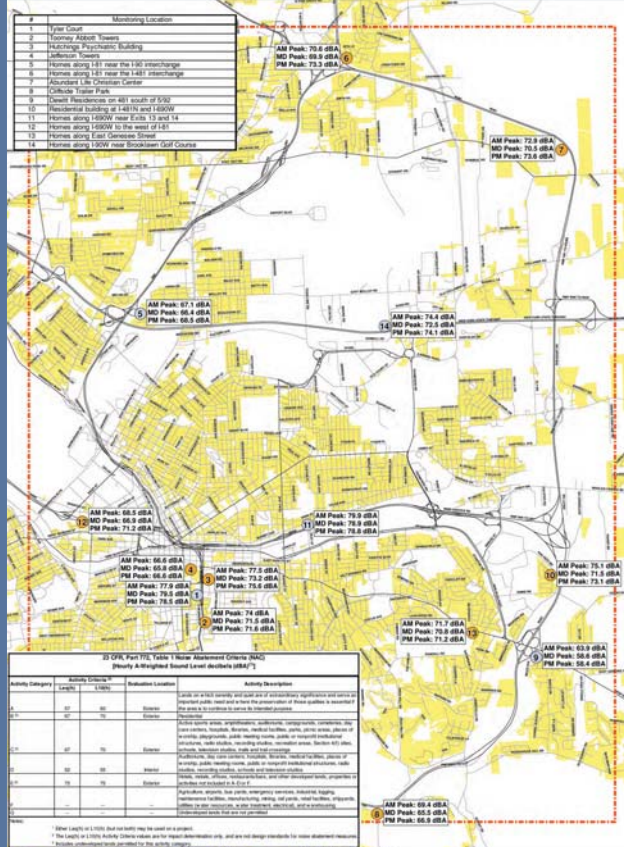
Interstate 81 Corridor Assessment

Noise - Sensitive Receptors

Legend

- SEE Study Area
- Municipal Boundary
- Noise Monitoring Locations
- Residential
- Residential - Transient
- Educational Facilities
- Healthcare Facilities
- Religious Facilities
- Indoor Entertainment/Congregation
- Active Outdoor Sports Areas
- Parks

EXISTING NOISE MEASUREMENTS



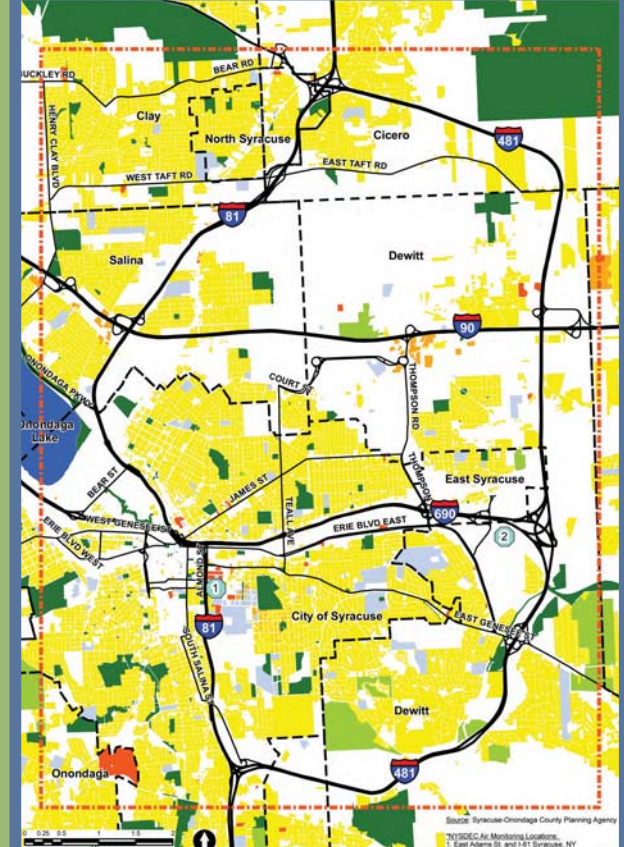
Interstate 81 Corridor Assessment

Existing Noise Measurements

Legend

- Study Area
- Residential Land Use
- Long Term Noise Monitoring Locations (24-hr.)
- Short Term Noise Monitoring Locations (20-min.)

AIR QUALITY SENSITIVE RECEPTORS



Interstate 81 Corridor Assessment

Air Quality - Sensitive Receptors

Legend

- SEE Study Area
- Municipal Boundary
- NYSDEC Air Monitoring Locations
- Residential
- Residential - Transient
- Educational Facilities
- Healthcare Facilities
- Active Outdoor Sports Areas
- Parks

Station 6

Case Studies of Urban Freeways

These boards examined 5 case studies from cities that have faced challenges comparable to that of the Syracuse region and the I-81 corridor. The station included an educational video by the SMTC and titled, “Lessons Learned: Case Studies from Urban Freeways.” Attendees were then asked to use a template provided to them to draw or write their vision for I-81.



Learning from other urban highway projects

▶▶▶ Cities across the nation have faced similar challenges:



Reconstruct the highway

THE MARQUETTE INTERCHANGE: I-794/I-43/I-94 MILWAUKEE, WI



SIMILARITIES TO I-81

- Designated as an interstate highway
- Carried through and local traffic
- Did not meet design standards
- Included an interchange with other interstate highways
- Located in a similar climate

DIFFERENCES FROM I-81

- Project focused primarily on an interchange
- Major alterations of highway network not considered

SO WHAT HAPPENED?

- Complete reconstruction of Marquette Interchange in downtown Milwaukee
- Project emphasized community involvement to develop a community-sensitive solution
- The new design is considered more attractive and traffic flow has improved

Lessons learned

- Project benefited from strong public outreach effort that included neighborhood committees
- Visual impacts can be mitigated through aesthetically pleasing design – clean lines, narrow piers, bright colors and decorative features

Bury the highway

CENTRAL ARTERY - THE BIG DIG: I-93 BOSTON, MA



SIMILARITIES TO I-81

- Designated as an interstate highway
- Carried through and local traffic
- Perceived as a barrier between neighborhoods

DIFFERENCES FROM I-81

- Carried twice the traffic volumes
- Located in an older and more densely populated city with greater development pressures
- Separated sections of the city from the waterfront

SO WHAT HAPPENED?

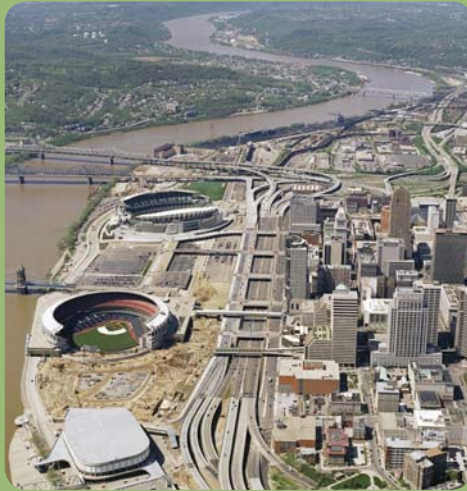
- I-93 was torn down and an expanded interstate was relocated under the same footprint
- The elevated section of the highway was replaced by public space, improving connectivity to the waterfront and North End neighborhood
- The project also focused on upgrading and expanding public transit

Lessons learned

- Cost of burying a highway were significant - final costs of the project were 5 times the original estimate
- Payoffs of burying a highway were also great:
 - Improved connectivity between neighborhoods
 - Improved traffic circulation
 - Enhanced urban environment and stimulated economic development

Depress the highway

FORT WASHINGTON WAY: I-71 CINCINNATI, OH



SIMILARITIES TO I-81

- Designated as an interstate highway
- Carried through and local traffic
- Carried comparable traffic volume
- Perceived as a barrier between neighborhoods

DIFFERENCES FROM I-81

- Existed as a depressed rather than elevated highway
- Separated downtown from the riverfront

SO WHAT HAPPENED?

- The project included highway widening and the elimination of several exits and entrances to simplify and improve traffic flow
- The total right-of-way width was substantially reduced
- Reclaimed space was developed as a waterfront park and professional sports venues
- Streets crossing the highway were redesigned to include broad sidewalks and landscaping

Lessons learned

- Project benefited from effective stakeholder involvement
- Project benefited from extensive planning - 25 alternatives were explored
- Integration of economic development and improved riverfront access contributed to broad support

Relocate the highway

THE “I-WAY”: I-195 PROVIDENCE, RI



Lessons learned

- Relocation allowed for existing road to remain operational, minimizing traffic disruptions
- Project benefited from extensive public outreach – media, websites and podcasts
- Focus on urban design, riverfront connections, and redevelopment opportunities fostered public support

SIMILARITIES TO I-81

- Designated as an interstate highway
- Carried through and local traffic
- Included an interchange with another interstate highway

DIFFERENCES FROM I-81

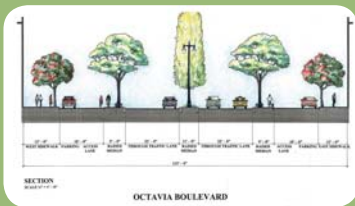
- Carried higher traffic volumes
- Did not include regional alternatives or bypasses
- Separated sections of city from a waterfront area

SO WHAT HAPPENED?

- The elevated I-195 highway was relocated from downtown Providence to a nearby industrial corridor
- The project opened up valuable redevelopment areas and allowed the city to reconnect parts of the downtown street grid

Remove the highway

CENTRAL FREEWAY - OCTAVIA BOULEVARD SAN FRANCISCO, CA



SIMILARITIES TO I-81

- Carried comparable traffic volumes
- Existed as an elevated freeway in an urban area

DIFFERENCES FROM I-81

- Not designated as an interstate highway
- Carried no through traffic (spur to downtown)
- Previously closed due to earthquake

SO WHAT HAPPENED?

- In 1989, an earthquake damaged the freeway forcing it to close temporarily
- In 1996, the freeway was repaired and reopened
- Ultimately, a proposal to replace the freeway with a boulevard gained support, and it was redesigned as Octavia Boulevard
- At its opening, the new boulevard carried about half the volume of the freeway it replaced

Lessons learned

- Surrounding street and transit network was able to absorb significant traffic
- A boulevard can:
 - Carry high traffic volumes
 - Spur development
 - Provide a pedestrian and bicycle-friendly environment



What do you think?



I like this because...



I don't like this because...

Some of the suggestions we have heard already

The case studies you have just explored offer different options for I-81, but they are not the only ones

Reroute traffic onto I-481 and use the viaduct as an urban park

Build a tunnel and put I-81 underground

Repair the viaduct

Replace the viaduct to modern standards and make it more attractive

Upgrade the transit system

Replace the viaduct with an urban boulevard and reroute traffic to I-481



What are your ideas?

Think **BIG**

Think
B R O A D

outside the box!

Think



Station 7

Goals & Objectives

These boards focused on the process of evaluating options for the future of I-81, illustrated by an informational graphic. Also, interactive boards allowed people to help shape the goals.



How can we evaluate possibilities for the future of I-81?

HELP US ANSWER THIS QUESTION!

Once we know what we want the ultimate I-81 project or projects to accomplish, we can begin to look at all of the different possibilities to see which ones will achieve our common goals

IDEAS

Many different ideas will be generated about future options for I-81

GOALS

The list of goals will be used to reduce possible ideas to a smaller list of potentially viable options

SOLUTIONS

A project or projects that may be implemented will emerge from the list of potentially viable options

FUTURE OF I-81

What should the solution for I-81 accomplish?

The first step in identifying what should ultimately happen with I-81 is determining what is important for us as a region and the role we want I-81 to play in our future.

In the many conversations we have had with communities, elected officials, and other stakeholders, certain key goals have emerged.



The study goals that we have heard so far include:

- Improve public safety
- Enhance the transportation network
- Enhance region-wide mobility
- Maintain or improve economic opportunities
- Support community quality of life
- Preserve or enhance environmental health
- Exercise fiscal responsibility
- Share the burdens and benefits of any solution equitably

What do these goals really mean?

Here are some initial thoughts, but we need your input, too!

IMPROVE PUBLIC SAFETY

- Reduce accident occurrences to at or below the statewide average for similar facilities
- Improve the safety of alternative modes of transportation (pedestrian, bicycle, transit)

SUPPORT COMMUNITY QUALITY OF LIFE

- Encourage sustainable land use patterns within the city and county
- Enhance local connectivity (such as linking University Hill with downtown)
- Encourage smart growth: sustainable regional land use patterns that minimize suburban sprawl which increases demand for infrastructure and services
- Improve the visual built environment through context sensitive design that contributes to roadside/street ambiance, community character and public safety
- Promote other planning and development visions and initiatives (county, city, and region)

ENHANCE THE TRANSPORTATION NETWORK

- Eliminate structural deficiencies
- Improve existing geometric design
- Identify alternative mode improvement in the vicinity of I-81

PRESERVE OR ENHANCE ENVIRONMENTAL HEALTH

- Support local, regional and state environmental initiatives
- Maintain or improve air quality (overall emissions and odor)
- Minimize air quality and noise impacts on adjacent neighbors
- Minimize impacts on designated community landmarks and historic resources
- Minimize storm water impacts and improve water quality

ENHANCE REGION-WIDE MOBILITY

- Improve peak period mobility and reduce delay on the highway system (primary, secondary and city streets)
- Preserve regional mobility by maintaining travel times
- Improve access to key destinations (i.e. the airport, hospitals, and downtown businesses)
- Improve connectivity of alternative modes of transportation (pedestrian, bicycle, transit)

EXERCISE FISCAL RESPONSIBILITY

- Minimize capital costs by ensuring that transportation system investments are cost effective
- Minimize long-term operation and maintenance costs

MAINTAIN OR IMPROVE ECONOMIC OPPORTUNITIES

- Maintain or improve economic opportunities by addressing multi-modal access
- Improve transportation system efficiency, reliability and reduce travel costs

SHARE THE BURDENS AND BENEFITS OF ANY SOLUTION EQUITABLY

- Share the burdens of impacts during construction and long-term across stakeholders (e.g. suburbs, adjacent neighborhoods, low-income communities, Onondaga Nation)
- Share the benefits across stakeholders (e.g. suburbs, adjacent neighborhoods, low-income communities, Onondaga Nation)



What do these goals mean to you?

You've just read some ideas of what these goals mean. Do you have anything to add?



Answer these questions for as many goals as you would like:

- Do you have other ideas about what the goals mean?
- What specific measurements could we use to know we've met the goal?

GOALS WE'VE HEARD	YOUR IDEAS
Improve public safety	
Enhance the transportation network	
Enhance region-wide mobility	
Maintain or improve economic opportunities	
Support community quality of life	
Preserve or enhance environmental health	
Exercise fiscal responsibility	
Share the burdens and benefits of any solution equitably	



Help us determine the “right” thing to do

How important are these study goals to you?

● Place your green dots next to the goals that are most important to you:

GOALS WE'VE HEARD	YOUR INPUT
Improve public safety	
Enhance the transportation network	
Enhance region-wide mobility	
Maintain or improve economic opportunities	
Support community quality of life	
Preserve or enhance environmental health	
Exercise fiscal responsibility	
Share the burdens and benefits of any solution equitably	



Are any goals missing? Add them!

Are there any study goals you think are missing?



Write your ideas on a post-it note and add them to this board.

Station 8

Breakout Groups

Attendees then had the opportunity to participate in breakout groups with a facilitator to share their concerns, visions, goals, and objectives in a group setting.



Stay a part of *The I-81 Challenge*



WHAT'S NEXT?

- Additional public meetings
- Additional questionnaires
- Increased web and social media presence
- Additional newsletters



YOUR ROLE

The I-81 Challenge is about and for you:

- Tell others what you have learned
- Let them know how to take *The I-81 Challenge*
- And most of all stay involved!



Public participation in *The I-81 Challenge*

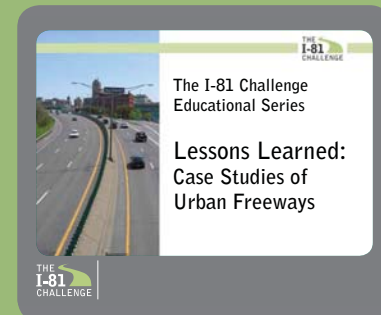
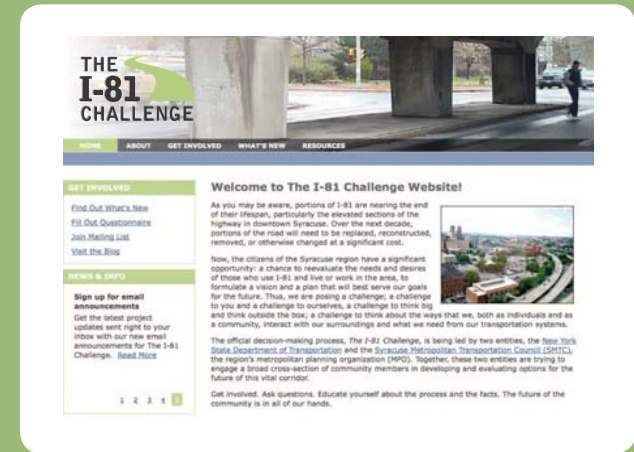
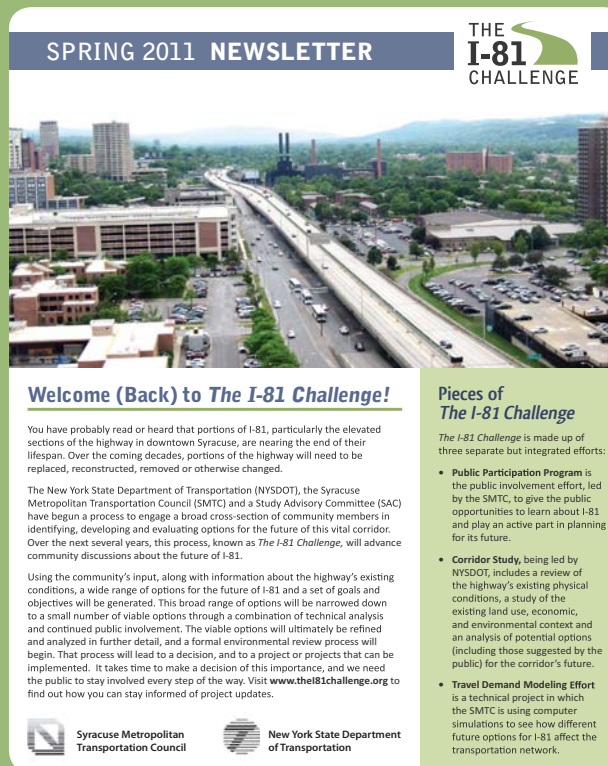
PUBLIC INVOLVEMENT

- Newsletters
- Fact sheets
- Educational videos
- Website
- Blog
- Facebook page
- Questionnaires
- Focus groups
- Project committees
- Public meetings

Find these resources and more information at:

www.thei81challenge.org

www.thei81challengeblog.org





Tell us what you think

Take a minute to fill out a meeting evaluation

What did you think of your experience today?

What did you learn?

What could we do better next time?

Is there anything else you want us to know?





The I-81 Challenge questionnaire

Take 10 minutes to complete our questionnaire



How does I-81 impact your life?

How do you use I-81?

What are your transportation needs?