This is a photograph of I-81 circa 1967.

During the 50’s and 60’s new Interstates were being built across the Country. These Interstates revolutionized transportation by moving goods, people and services more efficiently. The decisions on where the highways and bridges would go were predominantly made based on engineering. There was limited environmental protections, little community involvement, and the real estate acquisition process was very different.

Over the last 50 years much has changed for the better when it comes to developing, designing, and constructing Interstate projects. There is significant environmental protections for future generations, community involvement on is essential to successful project outcomes, and the real estate acquisition process follows a process that makes the homeowner a priority.

DOT wants to address the I-81 transportation deficiencies but also enhance livability, sustainability, and economic vitality of the Greater Syracuse area. DOT needs you to help us get there!!!!
The first meetings of the Community and Economic Development and Sustainability Stakeholders’ Advisory Working Groups (SAWGs) took place on April 8 and April 10, 2014, respectively.

Each of you have been invited because you represent a key stakeholder group and can provide valuable insight into community, economic development, or sustainability issues that will benefit the greater Syracuse area.

Introductions of all attending.
The project’s Stakeholders’ Advisory Working Groups, or SAWGs, will play a valuable role in the project. We would like to begin this meeting by briefly reviewing the group’s:

- Role and what we expect of SAWG members, and
- A few rules of engagement

We will then spend a few minutes providing an update on the project status and next steps, followed by a brief introduction to the groups by the group leader and facilitator, who will present some ideas on how we could proceed with our discussions and possible topics for our future meetings.

Most of today’s meeting will be a detailed review and discussion of the Tunnel Alternatives.
The project alternatives include several Viaduct, Street Level, Depressed Highway, and Tunnel Alternatives. The Draft EIS also will include a No Build, or no action, alternative. Although the No Build does not meet the project’s purpose and need, the National Environmental Policy Act requires that it be carried as a baseline—a benchmark against which to compare the Build alternatives.
What could a sustainable I-81 Viaduct Project mean for Syracuse? To answer that question, we could begin by possibly focusing on three areas of study: mobility, community, and ecology.

We might, for example, focus on ways the project might affect mobility for autos, pedestrians, and bicyclists; strengthen connections between local neighborhoods and other destinations; contribute to the ecology of the community; and create open space with stormwater benefits.
Considerable work has been done in recent years on regional and local sustainability plans and initiatives, including contributions from many of you in this room. Among these are the Syracuse 2012 Sustainability Plan, Onondaga County Sustainability Plan, and Vision CNY Sustainability Plan.

We envision that the I-81 Viaduct Project will draw on those documents to support existing sustainability planning endeavors.
Some of the potential topics that we might cover in subsequent Sustainability SAWG meetings include:

- complete streets
- climate change and energy
- site development – open space and habitat, stormwater strategies, community connectivity
- visual and aesthetic improvements/connections
- construction activities and waste management
- case studies on sustainability
- livability
- historic and cultural resources

Members are asked to suggest topics for discussion. For some topics, we might look to invite speakers to lend their experience or perspective.
This presentation will review the tunnel alternatives that have been developed as part of the I-81 Viaduct Project.
NYSDOT has developed four tunnel alternatives for the I-81 Viaduct Project: two that would place an underground highway below Almond Street, following the footprint of the existing I-81 viaduct; one west of the existing viaduct, and one east of the existing viaduct. All the tunnel alternatives would demolish the existing viaduct, and all assume a surface roadway above the underground highway.

The tunnels under Almond Street differ in their length. Both would have a portal, or an entrance/exit, on Almond Street in the vicinity of Martin Luther King East (formerly Castle Street) at the southern end. Alternative T-1 is about two miles long and would have a portal in the vicinity of Butternut Street, and Alternative T-2 is about one mile long and its portal would be in the vicinity of Genesee Street.

Alternative T-3 would place the tunnel under Townsend Street, and Alternative T-4 would place the tunnel along an eastern alignment. This last alternative was suggested for consideration by a member of the public.
For the purposes of this presentation, Alternatives T-1 and T-2 (under Almond Street) and Alternative T-3 (under Townsend Street) are known as the “Downtown” tunnels.

All four tunnel alternatives would be designed to meet current highway design standards. For example, the tunnels would have wider shoulders, flatter curves, and longer exit and entrance ramps than the existing I-81 viaduct.

The Downtown tunnels would rebuild the I-81/I-690 interchange, making it fully directional. This means that ramps connecting eastbound I-690 to northbound I-81 and southbound I-81 to westbound I-690—which do not exist today—would be provided.
This illustration shows some of the major features of a potential alignment for Alternative T-2, Tunnel under Almond Street from MLK East to Genesee Street. These features include:

- A southern portal, just south of Martin Luther King (formerly Castle) Street
- A northern portal, just north of Genesee Street
- A ramp from northbound I-81 would allow motorists to enter Almond Street, above the tunnel
- Southbound Almond Street would merge onto southbound I-81 via a ramp south of Adams Street
- Jackson, Fayette, Water, Washington, and McBride Streets would be disconnected, as shown in blue shapes, meaning that traffic on these streets would not be able to proceed through Almond Street
- Some buildings would likely need to be acquired under this alternative, as shown in blue shapes.
- Almond Street’s intersections with primary east/west streets could be enhanced with safety and connectivity improvements
- A multi-use path (accommodating both bicyclists and pedestrians) could be built on each side of Almond Street, improving connections between the west side of University Hill and Southside neighborhoods. Connections would be provided to the Connective Corridor and the Erie Canalway Trail
- Almond Street would have a landscaped median in the center of the street
This illustration is an enlargement of the previous slide, showing Almond Street and surrounding streets from Adams Street north to Washington Street.
This slide presents a bird’s-eye view of what Almond Street with the tunnel alternative could look like with urban design improvements.
This slide shows a plan (aerial view) and profile (side view) of the tunnel under Almond Street. The tunnel is depicted by a red line, and street-level roadway, above the tunnel, is depicted by a yellow line.

A tunnel under Almond Street would likely be about forty feet below the surface, allowing sufficient room to accommodate utilities. Because of engineering constraints, traffic would not be able to cross Almond Street east-west on Jackson Street (illustrated with a red “X” on Jackson Street). Connections along other streets, near the tunnel entrance/exit in proximity to the I-690 interchange, also would be severed, and these are also indicated with red “X”s.
This map shows some of the engineering details associated with a potential I-81/I-690 interchange, developed for Alternative T-2, Tunnel under Almond Street from MLK East to Genesee Street.

The orange boxes show access points (entrance/exit ramps) to and from the interstates and the Downtown/University Hill area. I-81 is shown in red, I-690 is in green, direct connections between the interstates are in blue, and local streets are in yellow.

The existing Harrison Street entrance and exit ramps to I-81 would be relocated, as shown. Motorists coming from Downtown/University Hill wishing to enter westbound I-690 would do so via an interchange with West Street. To be able to connect with I-81, which would transition from a tunnel to a surface highway in this area, Erie Boulevard would be lowered about ten feet; State Street also would be lowered about five feet in order to be able to connect to Erie Boulevard.

Finally, as stated earlier, no through traffic would be allowed on several local streets in the area where I-81 transitions from a tunnel to a surface highway. These streets are shown in light red on the map.
All of the tunnel alternatives would provide the potential for economic development and urban design improvements along Almond Street. They would eliminate the perceived viaduct barrier and improve connections for pedestrians. The tunnel alternatives would be among the costliest of the alternatives under consideration to construct as well as to maintain.

Construction of the tunnel alternatives under Almond Street could impact properties. In addition, many utilities are located under Almond Street, and these would need to be moved elsewhere to construct Alternatives T-1 and T-2.
This slide includes a typical section of a potential tunnel alternative under Almond Street in the area between Adams Street and Cedar Street. While several arrangements are possible, in this view the tunnel would include two northbound and two southbound travel lanes. Almond Street is shown with two travel lanes in each direction, a parking lane in each direction, and a generous planted median in the center. The east side of Almond Street includes street trees and a sidewalk, and the west side includes a double row of street trees, a multiuse path, and a dedicated sidewalk.
This slide shows a potential aerial view of an Almond Street tunnel alternative. This view shows Almond and Harrison Streets.
This slide shows a street-level view of Almond and Harrison Streets, looking north, under the Almond Street tunnel alternatives.
Construction of Alternatives T-1 and T-2 would need to consider the geological conditions beneath Almond Street, which include a high water table, saline groundwater, and weak soils.
Because of the issues described in the previous slide, a tunnel under Almond Street would be built using the cut-and-cover tunnel construction method. This slide shows the steps of cut-and-cover construction, which involves excavating a trench and decking it over to allow traffic to be reinstated. For this project, the first step would be to remove the viaduct and its supporting piers and foundation; excavate the trench; protect underground utilities or move them elsewhere; construct temporary support walls to hold back the soils; construct the tunnel in sections; then cover up the tunnel with soil and build a new street on its surface. Treatment and disposal of the saline groundwater would be necessary.

In the area under the railroad, a “jacked-box” construction method is assumed. This approach, which would involve temporarily supporting the railroad and sliding a tunnel section beneath it, would allow the railroad to maintain operations.
What would cut-and-cover construction look like during construction of the tunnel? This slide shows two photographs of excavation sites.

The existing I-81 viaduct would need to be demolished before construction of the tunnel would begin. Traffic would be routed to I-481 and I-690 during construction. Local north-south traffic would be accommodated on a temporary Almond Street bypass, and east-west traffic would be reinstated with the placement of a temporary “roof” on the tunnel.

The potential duration of this construction is about five to six years.
The tunnel alternative on Townsend Street was an idea brought up to avoid some of the issues that arose during the investigation of the Almond Street tunnel alternatives. However, further inquiry showed that the underground conditions are likely not more favorable on Townsend Street. Moreover, the alternative would require substantially more property than would the tunnel alternatives under Almond Street.
The Tunnel on an Eastern Alignment Alternative was investigated as a result of a suggestion by a member of the public.

This tunnel, about five miles long, would be built about a mile east of the existing I-81 viaduct and would be about 81 feet below surface. This depth would allow the tunnel to be constructed through bedrock, with use of a tunnel boring machine.

The Tunnel on an Eastern Alignment Alternative would create new interchanges with I-481, I-690 (west of Teall Avenue), and I-81 (near Bear Street). The depth of the tunnel means that ramps from the tunnel to the surface would need to be long.

Under this alternative, the current viaduct area could be used for a street-level roadway or other use.
This slide shows the existing I-481 interchange, on the southern edge of the city, on the left; the proposed I-481 interchange under the Tunnel on an Eastern Alignment Alternative is shown on the right.
This slide shows the proposed connection to I-690 and envisions existing I-81 as a park.
This slide shows the existing I-690 interchange and what it might look like under the Tunnel on an Eastern Alignment Alternative.
This slide shows the existing connection to I-81 near Destiny USA and Hiawatha Boulevard as well as what this connection might look like under the Tunnel on Eastern Alignment Alternative. The existing footprint of I-81, south of here, would be redesignated as a “spur” and connection to the new I-81 would be maintained.
As discussed earlier, this alternative would construct a tunnel in bedrock, deep below the University Hill and Lincoln Park neighborhoods. Existing I-81 could remain open while the tunnel is constructed. However, construction of the eastern route would likely require substantial property takings as well as potential impacts to Lincoln Park, a hazardous waste site, and critical utilities. Subterranean easements also would be required.

This alternative would eliminate the existing I-81 interchange with Teall Avenue, due to the close proximity of the new interchange with I-690.

It is the costliest of all the tunnel alternatives.
Preliminary construction estimates for the tunnel alternatives range from $1.6B to $2.2B for the tunnels under Almond Street and from $3B to $3.9B for the Tunnel on an Eastern Alignment Alternative.