

The City of Salem
New Jersey

Salem Main Street
A Program of
Stand Up For Salem, Inc.



Main Street Revitalization Master Plan

Transportation Inventory

September 2003

Glattig Jackson Kercher Anglin Lopez Rinehart
Orlando and West Palm Beach, Florida



QUINN EVANS | ARCHITECTS

1214 Twenty-eighth Street, NW
Washington, DC 20007

Glattig Jackson Kercher Anglin Lopez Rinehart
Orlando and West Palm Beach, Florida

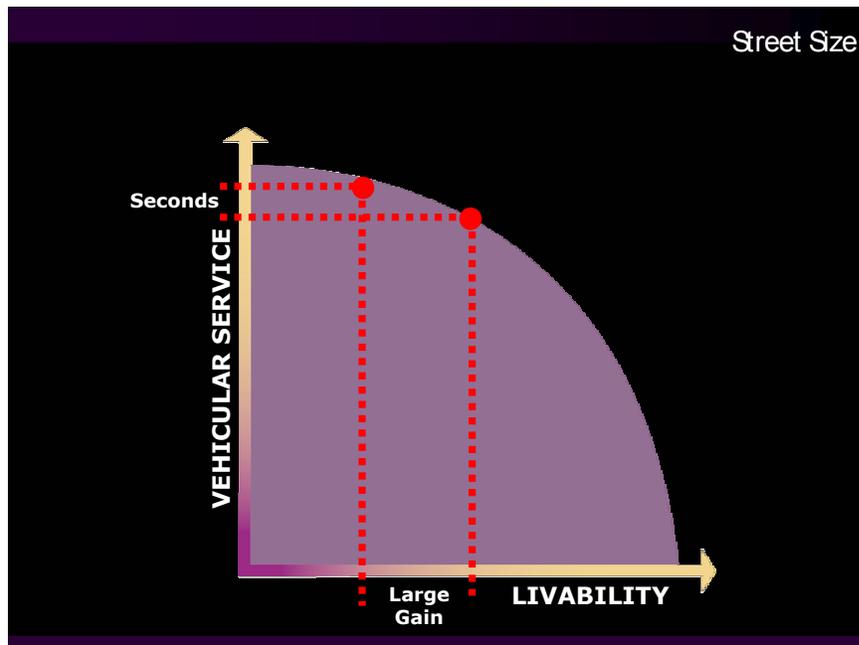
Glattig Jackson is a Land Planning, Environmental Services, Transportation Planning, Parks and Open Space Planning, Landscape Architecture and Urban Design firm founded in 1974. The firm employs a broad-based interdisciplinary approach to transportation planning.

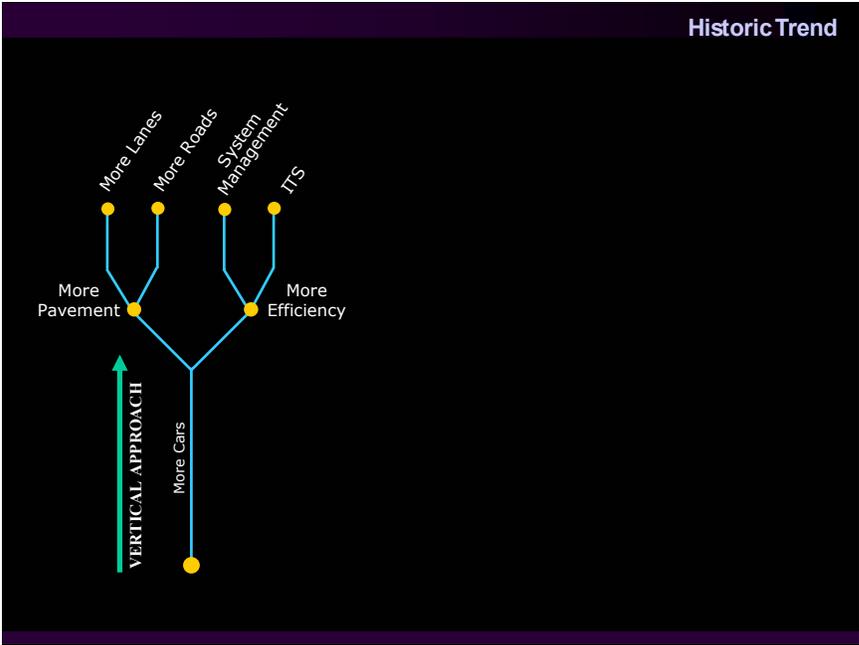
DOWNTOWN SALEM CIRCULATION ANALYSIS

The transportation system plays a critical role in defining the character of Downtown Salem. Transportation issues span the study area boundaries and should be discussed both at the local and regional levels. Broadway and Market Street, in particular, are important roadways for the redevelopment of Downtown Salem.

The primary transportation challenge of this Study is to balance the success and livability of Downtown Salem with Broadway and Market Street's requirement to accommodate regional transportation. Livability is focused on balancing vehicular service requirements of Broadway and Market Street with their business, neighborhood and pedestrian needs.

Currently the focus of Broadway and Market Street is skewed toward vehicular service; large gains in livability for Downtown can be made with rather minor impacts on vehicular service. This circulation section is divided into two sections: 1) Principles of Livable Transportation, and 2) Transportation Actions.

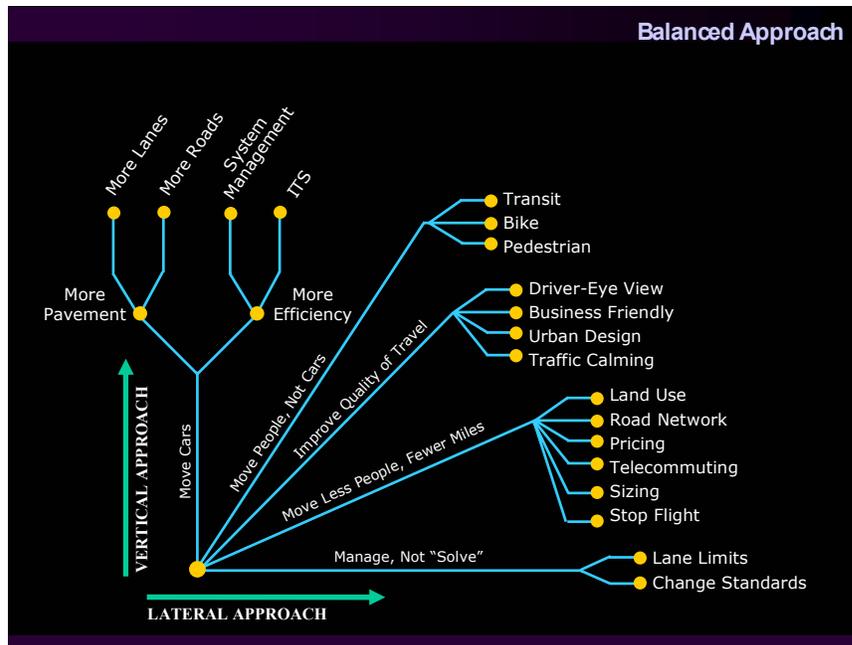




PRINCIPLES OF LIVABLE TRANSPORTATION

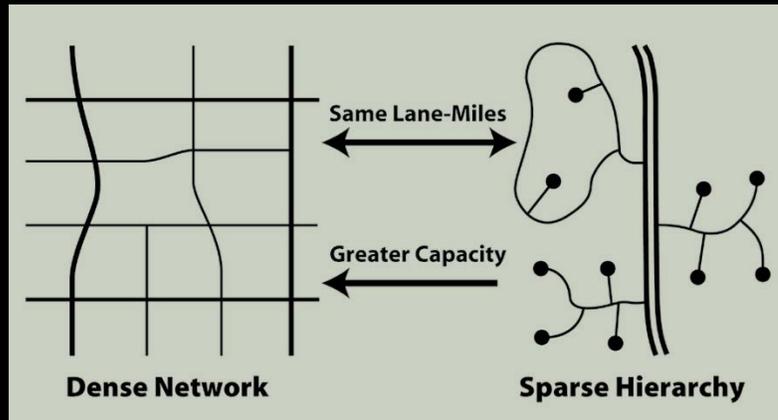
Conventional Approach to Transportation Planning:

The historic approach to transportation planning has been focused solely on moving more cars. As a consequence, transportation planners and engineers have focused on only two transportation solutions: make roads bigger, or make roads more efficient. Due to the context of the study area, this single-minded approach was not used for the Downtown Salem Redevelopment Plan.



A Balanced Approach to Transportation Planning

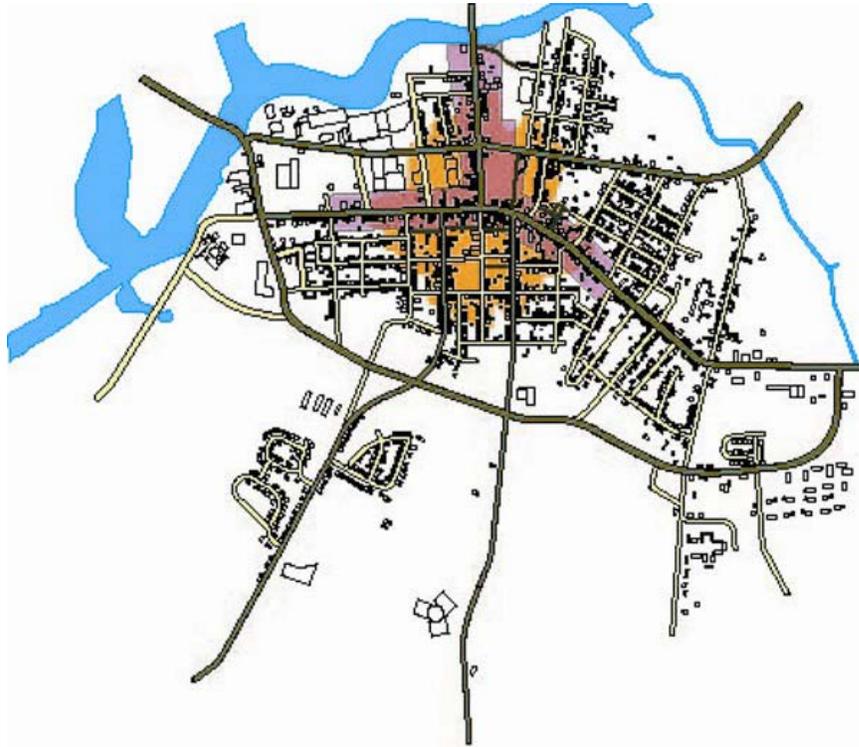
A balanced approach to transportation planning recognizes the interrelationship between land use and transportation planning. This approach broadens the definition of transportation planning to include the movement of people - through cars, transit, bicycling, and walking. This approach also recognizes the value of improving the quality of trip as well as utilizing land use solutions to resolve transportation problems. The redevelopment plan for Downtown Salem will employ a balanced approach to transportation issues.



Street Network

Basic transportation planning principles suggest that a traditional network of streets has more capacity than the suburban sparse hierarchy. The fundamental reason why a network of small streets out performs a sparse hierarchy of streets is that streets become less (not more) efficient as their size increases. Instead of an efficiency of scale as the street gets larger we experience a "diseconomy" of scale. A highly connected grid of streets provides numerous, redundant opportunities to make left turns. This contrasts with a sparse network pattern in which left turns are gathered up from multiple locations and focused at a single location.

The long-term redevelopment strategy for increasing vehicular capacity in the redevelopment district is focused on increasing the street network within the study area. The most significant are the long-term utilization of Grieves Parkway and the reconnection of Griffith Street to Front Street. These actions will provide needed alternative routes to the Broadway and Market Street intersection.



Broadway and Market Street - Users

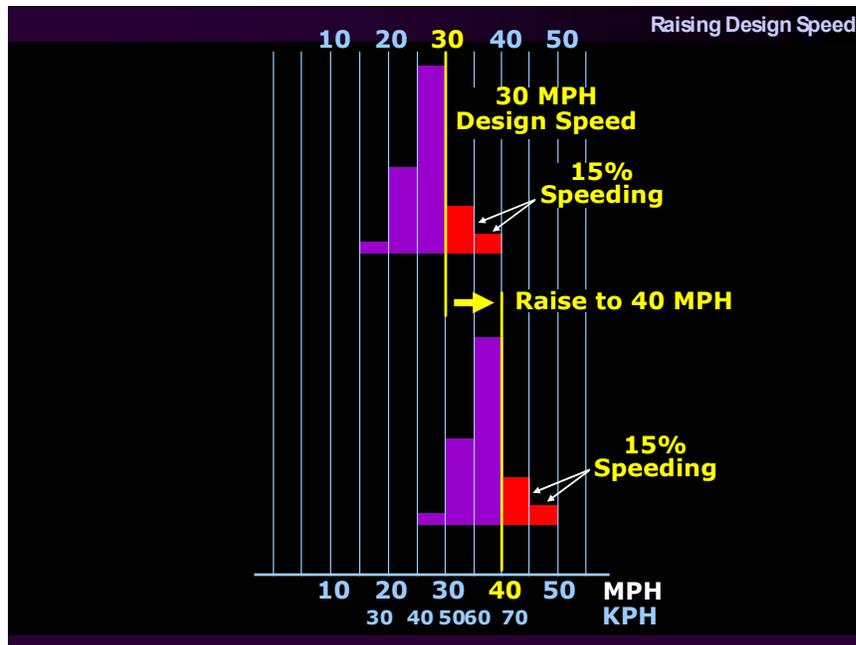
Broadway and Market Street have many different users. Their obvious role of providing service to vehicular traffic is unchanged - and will likely grow in the next 20 years. However, successful redevelopment of Downtown Salem is dependent on Broadway and Market Street recognizing all of their users and developing design solutions that meet and balance all of their users' needs. Besides their vehicular transportation role, Broadway and Market Street need to better meet the transportation needs of pedestrians and bicyclists.

Equally important, transportation planners need to recognize and propose design solutions to facilitate Broadway and Market Street's community responsibilities of supporting commerce (the exchanges of goods and services) and proper functioning as a premiere public space.

Broadway and Market Street - Capacity

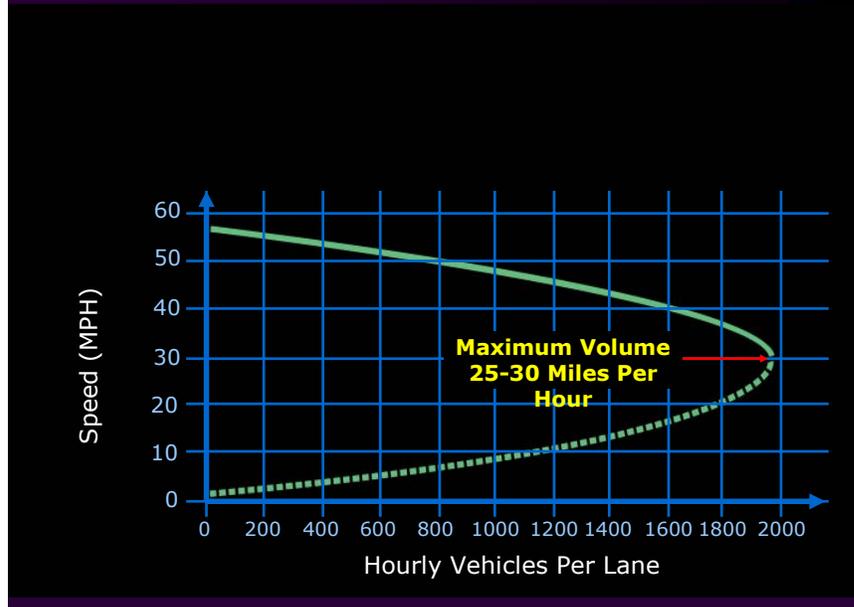
Traditionally Broadway and Market Street's capacity has been narrowly defined by their vehicular capacity. As a 2-lane arterial with left turn lanes, Broadway and Market Streets both have a theoretical vehicular capacity of 17,000 cars per day. Currently the roadway is carrying approximately 900 cars per day.

Unfortunately, measuring capacity through only vehicles neglects to recognize all of the other users of the street. The redevelopment strategy for Downtown Salem measures street capacity by the number people and community functions it serves and therefore will outline design solutions, which improve the broader capacity of the corridor.



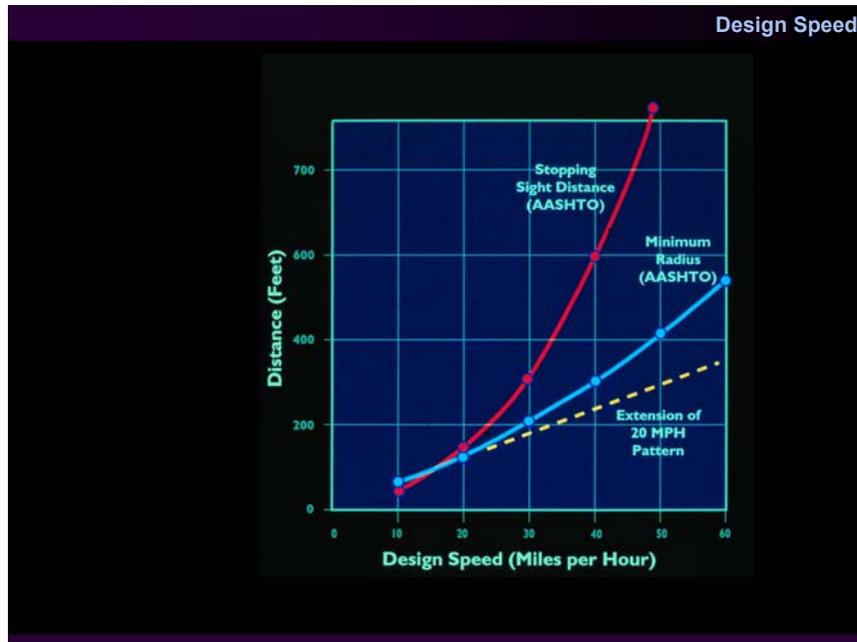
Speed - Flow

A common misconception in transportation planning is that higher speeds allow for greater capacity than lower speeds. This is not true. According to the Institute of Transportation Engineer's Highway Capacity Manual, a roadway will carry more cars per lane between 25-30 miles per hour than any other speed. With speeds higher than 30 mph, motorists allow for greater gaps between cars and for speeds below 25 mph the efficiency of the roadway is compromised. Vehicular speeds of 25-30 mph are more reasonable speeds for pedestrians and bicyclists sharing the corridor. Since capacity is not compromised with lower speeds, design solutions for Broadway and Market Street should limit design speeds from 40 mph to 30 mph.



Roadway Design Speeds

Roadway design speeds control the level of roadside improvements a community can make. The design speeds impact clear zone distances. Interestingly enough, minor changes in design speed can again leverage large gains for roadside treatments, such as street trees, lighting, and other pedestrian amenities. Notice stopping sight distance at various speeds is not linear but exponential. Increasing speeds from 20-mph to 40-mph will not simply double stopping sight distance, it will increase stopping sight distance three fold. Utilizing specific actions that lower the design speed of Broadway and Market Street will directly benefit all the users of the Downtown.



Alternative Approach to Roadway Safety

Two different and completely reasonable approaches to roadway safety are employed throughout the United States. One approach resolves safety issues by increasing sight distances, such as flattening curves, eliminating conflicts, and removing obstacles. Unfortunately, as design speeds are increased, the quality of the surrounding environment is often compromised. Surprisingly, roadways will still experience about 15% of the motorists exceeding the speeds limits. Only this time, the potential severity of an accident is increased with the increase speed caused by higher design speeds.

The second approach to resolving safety concerns focuses on design speeds so that they match existing sight distances. This approach focuses on lowering design speed so that motorist can adequately react to existing curves, sight limitations, and conflicts. Often referred to as traffic calming, the benefits of this approach and lower design speeds can increase the quality of the surrounding environment. Similarly, 15% of motorists will continue to exceed the lower speed limit. Only this time, the potential severity of an accident is decreased with the reduction in design speed.

Roadway Design Guidelines

The American Association of State Transportation Officials (AASHTO) produce what is commonly referred to as the "Green Book" to establish basic geometric design criteria that establish the physical features of a roadway. The state of New Jersey has produced its own highway design standards based on guidelines established in the "Green Book". Street design guidelines documented in the "Green Book" recognize the wide range of issues that impact driver behavior and expectations and document design criteria that ensure the roadway meets driver expectations and creates a safe traveling environment. Guidelines used in the "Green Book" and the State of New Jersey recognize the differences in roadway design features and driver expectations. For example design solutions for a rural highway with no curbing produce different design criteria than urban corridors with curb and gutter.



Context Sensitive Design

An often-cited shortcoming in roadway design by local communities is that design standards used for roadway design are not appropriate and are out of context with the surrounding environment. The Federal Highway Administration (FHWA) recognized this shortcoming and produced, in partnership with AASHTO, a guide for "Flexibility in Highway Design." As stated in that document: "This guide does not attempt to create new standards. Rather, the guide builds on the flexibility in current laws and regulations to explore opportunities to use flexible design as a tool to help sustain important community interests without compromising safety."

Design solutions identified in for Broadway and Market Street in this section and the next are not intended to compromise safety. They are intended to create a roadway that better fits within its environment. The solutions documented are meant to work within the parameters of the "Green Book" to obtain safety and mobility goals, while preserving the pedestrian and community goals sought after by the Town of Salem.

It is recommended that the Town of Salem and the New Jersey Department of Transportation develop a partnership to recognize this project as an opportunity to use their creative abilities, to expand beyond the standard or conservative use of the "Green Book" criteria and related State standards to create a Broadway and Market Street that fits within the context of its surroundings and creates a balanced street environment for all modes of travel.

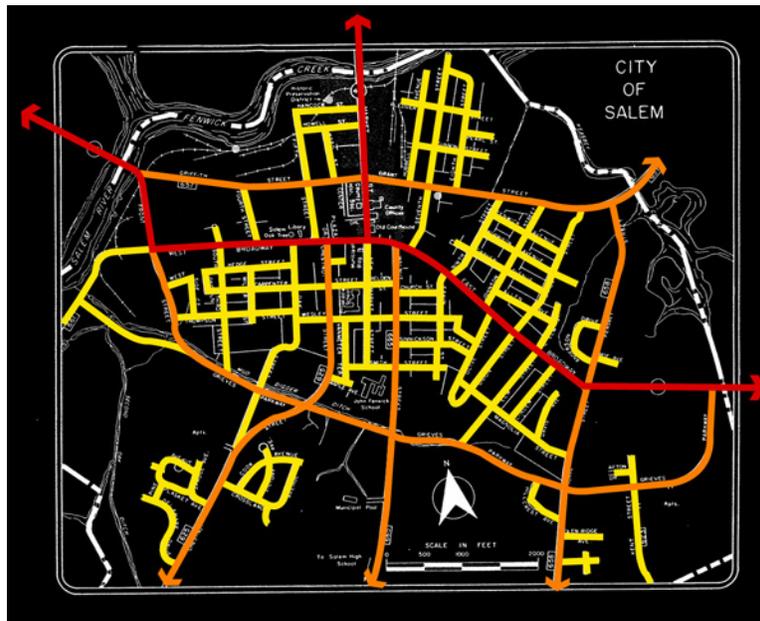
TRANSPORTATION ACTIONS

Numerous physical transportation improvements are needed for the successful redevelopment of Downtown Salem. Many improvements can and should occur in the short-term (1-5 years), while other improvements are not needed immediately and are proposed more as long-term solutions (10-20 years). The focus of these improvements physically elevates the status of the public realm and allows Broadway and Market Street and local city streets to fully support the redevelopment plan.

Overall Strategy

This redevelopment plan focuses on creating additional livable streets and promoting alternative modes of travel by narrowing both Broadway and Market Street encouraging the use of the existing street network to accommodate future traffic.

The current form and function of Broadway and Market Street do not contribute to the redevelopment of Downtown Salem. As stated earlier vehicular capacity is not a problem in Downtown. The problem with Downtown relates to its design. Currently, the design of the roadways is an unbalanced (automobile oriented) high-speed arterial. A redesign of the roadways' cross section is needed for three reasons: 1) improve the livability of the corridor for adjacent businesses and neighborhoods, 2) balance the street for all modes of travel, and 3) improve safety of the corridor.





Broadway

The City of Salem will need to work collaboratively with the New Jersey Department of Transportation to create a more context sensitive solution for Broadway and Market Street that addresses roadway safety as well as business viability and neighborhood stability. The following street design concepts provide a safer transportation facility while meeting the business viability and neighborhood stability expectation of the community. These design concepts also meet the American Association of State Highway Transportation Officials (AASHTO) design guidelines.

Existing Street Sections

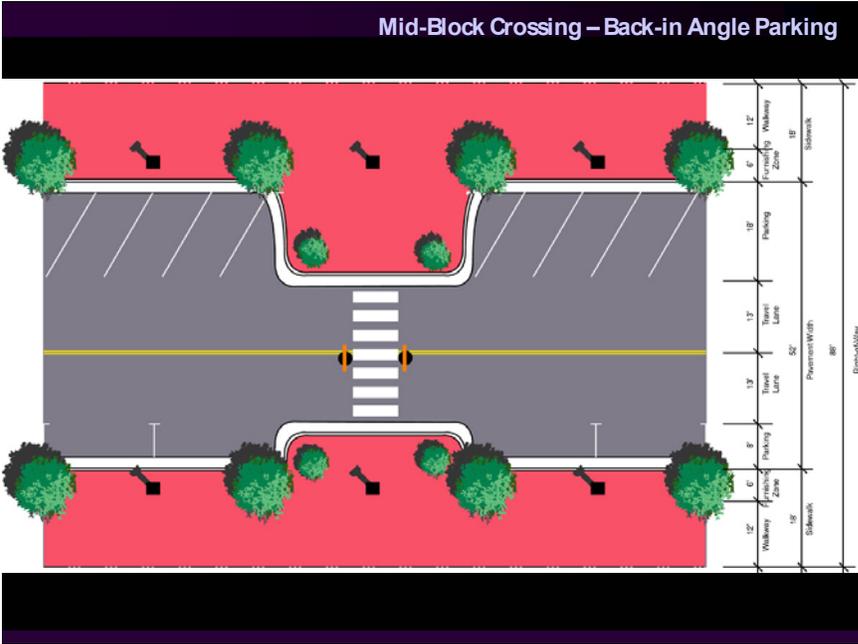
- 88 feet of right-of-way - varies throughout the corridor
- Two 18-foot travel lanes
- No bicycle facility - Safety hazard for bicyclists
- On-street Parking
- 18-foot sidewalks

Mid-Block Crossing – Parallel Parking & Bike Lanes



**Alternative #1 Neck-downs & Bike Lanes
(Both Commercial and Residential Areas)**

- 88 feet of right-of-way - varies throughout the corridor
- Two 12-foot travel lanes
- 6-foot bike lanes
- On-street Parking (8')
- Neck-down in place of on-street parking at intersections and crosswalks
- 18-foot sidewalks



**Alternative #2 Back-in Angle Parking
(Commercial Area)**

- 88 feet of right-of-way - varies throughout the corridor
- Two 13-foot travel lanes
- On-street Parking - Parallel (8') and Back-in angle parking (18')
- Neck-down in place of on-street parking at intersections and crosswalks
- 18-foot sidewalks

