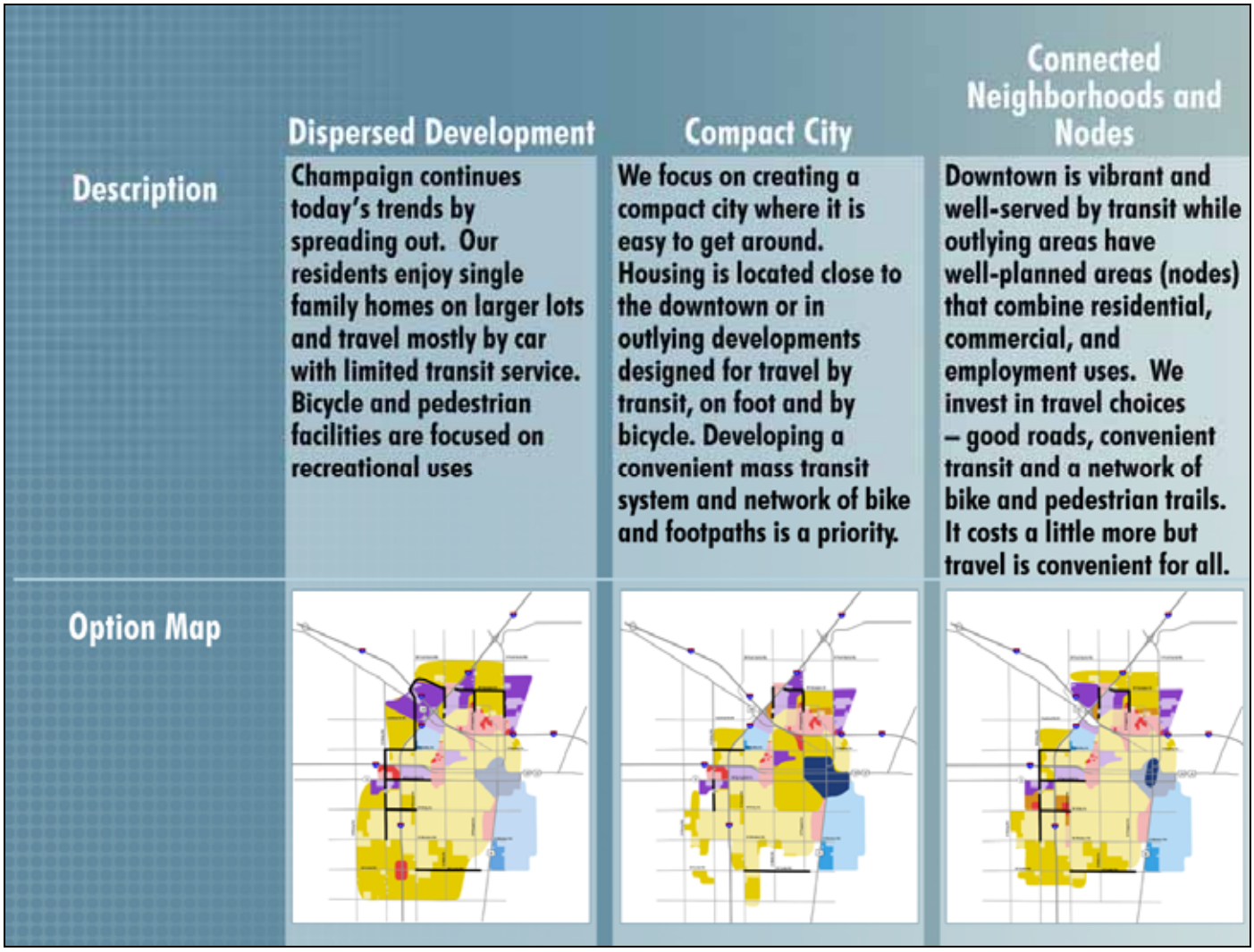
CHAPTER 3: CONNECTED NEIGHBORHOODS AND NODES

INTRODUCTION

The existing and future land use development patterns will impact the operation and performance of the transportation system. Conversely, the existing and future transportation system will affect the land use pattern. Under current patterns, new residential development at the fringe of the City of Champaign will travel further to get to existing shopping and employment destinations within the central portions of the City. These new trips will also have to travel down existing arterials to reach those destinations and impact the existing arterial street systems and their adjacent neighborhoods. Conversely, the design of the transportation system will affect mobility and where development will occur. As an example, the proposed I-57 interchange at Curtis will increase accessibility to this area and facilitate new development. It will also increase accessibility from the area to other parts of the City via the interstate system.

In order to better understand the relationship between land use and transportation, three land use alternatives were tested. The first was a "Dispersed Development" alternative that generally reflects current development trends. The second option, "Compact City," examined the affect of infill development and intensification in the central portions of the City. The third alternative, "Connected Neighborhoods and Centers," analyzed the transportation impacts of a land use pattern that targeted development at key nodes, with some infill and intensification in the core area, and lower density areas outside the core and nodes. A summary of each alternative description and a generalized land use map is presented in Figure 9.

FIGURE 9: ALTERNATIVE DESCRIPTION AND GENERALIZED LAND USE MAP



Each alternative has its set of virtues and each has its set of drawbacks. These are presented in Figure 10.

A traffic analysis was performed on each alternative. This analysis assumed the same growth for each alternative in residential dwelling units and retail, service, and industrial employment. The differences were the distribution of these land uses. These three alternatives were evaluated utilizing the CUUATS regional travel model to determine what transportation mitigations would be needed to support the land use alternative, what might be the cost of those improvements, and how did the land use alternative perform using some standard measures including land consumption, vehicle miles of travel, and average trip length. The results of this analysis are summarized in Figure 11.

FIGURE 10: VIRTUES AND DRAWBACKS

	Dispersed Development	Compact City	Connected Neighborhoods and Nodes
Support	1. This choice reflects the operation of the marketplace. Free markets are the fairest way to make choices when there are many people with different preferences. 2. In this market-oriented approach, consumers can buy the houses they want. 3. Development at the edge of the city offers a focus on neighborhoods where there is less traffic, noise, pollution and crime.	1. Focusing on downtowns would rejuvenate our central cities and reduce the need for farmland and open space conversion. 2. This option gives people more choices in how they travel so that they are not dependent upon the automobile. 3. The health of the central city affects the economy and attractiveness of the entire region.	1. This choice integrates how we build our transportation system with how we use our land. By locating housing close to jobs, we reduce commute distances. 2. Transit oriented developments provide economic vitality by bringing customers and jobs to an area and increasing property values. 3. This choice gives people options in where they live and how they travel. It is more likely to produce choices in affordable housing.
	Dispersed Development	**Compact City**	**Connected Neighborhoods and Nodes**
Opposition	1. We can no longer afford low density development that does not contain a mix of uses. The infrastructure and service costs are too high. 2. The development we see now at the edge of the city offers few options for affordable housing. 3. Dispersed development isn't a healthy choice.	1. It's the market that is fueling outward expansion as people seek larger homes and less expensive locations for industrial development. Plans to lure people back to the inner-city have failed in many cases. 2. Redevelopment costs more, not less, than building on vacant land. 3. In the United States, 95% of our land is undeveloped. Concerns about sprawl are overstated.	1. In today's world, with both parents working, it isn't likely that both will work near where they live. One parent will still need to commute into or across town. 2. This choice still doesn't consistently produce the population density needed to make transit viable. It provides choices in how people travel but at a cost. 3. Putting housing and employment next to each other may create conflicting land uses, ultimately pushing down property values.

FIGURE 11: TRAFFIC ANALYSIS RESULTS

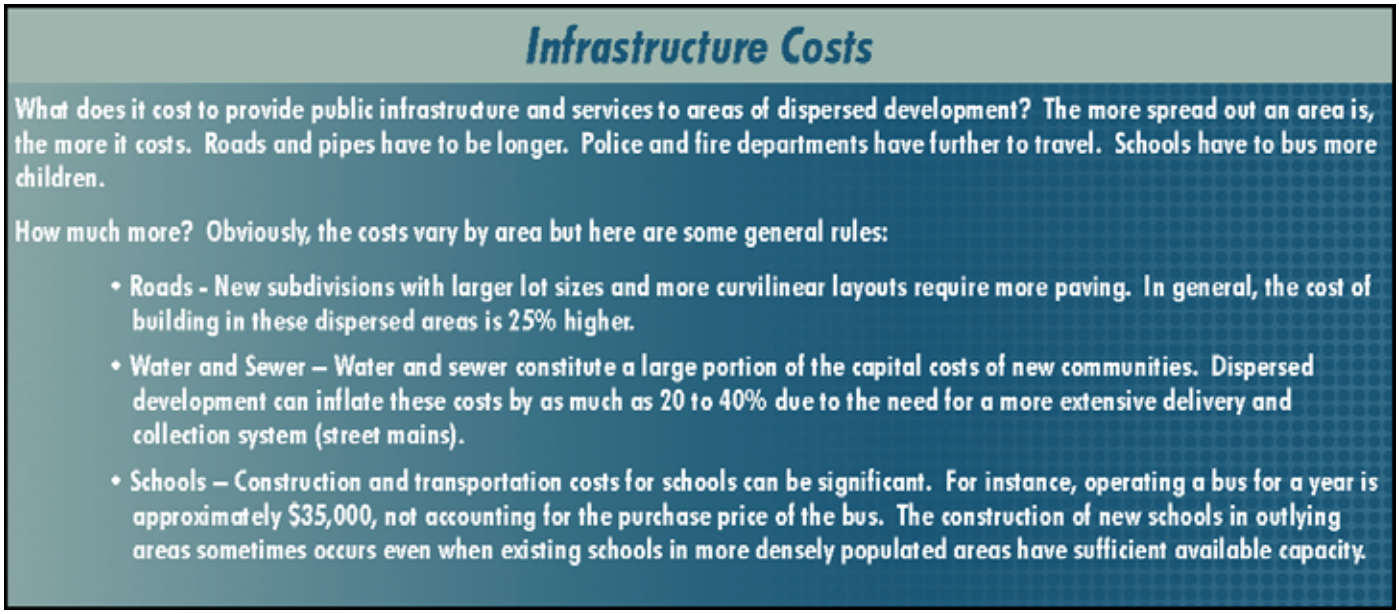
	Dispersed Development	Compact City	Connected Neighborhoods and Nodes
Land Consumption*	8,000 Acres 60% Increase	2,700 Acres 20% Increase	4,900 Acres 35% Increase
Transportation Improvement Costs*	$60 Million	$29 Million	$53 Million
Vehicle Miles Traveled*	1.35 million miles 55% Increase	1.2 Million Miles 36% Increase	1.25 Million Miles 45% Increase
Average Trip Length*	4.5 Miles 16% Increase	4.2 Miles 8% Increase	4.4 Miles 12% Increase

Source: City of Champaign/CUUATS Traffic Model and LSA Associates

In review of the performance analysis, it became evident that the trends toward dispersed development in the outlying areas will have a negative impact to the City in regards to both land consumption and the impacts to the transportation system. This is particularly true of new development traffic impacts on existing established neighborhood arterials and streets as these new trips traveled from outlying areas to core destinations of downtown and campus.

As part of the public outreach process for Champaign Moving Forward, these choices were presented at public meetings and focus groups to solicit input on how the City should address future development and the supportive transportation system. The public input process for this question was supported by a comprehensive booklet, which provided background on the alternatives and the potential impacts of each. The Choices booklet is presented in Appendix B: ***Choices A Community Conversation***.

Based on the public meetings and focus groups, there was concern about the current trends of dispersed development and a strong preference expressed for a future land use plan that provided for infill development, redevelopment, and a system of mixed-use activity areas that become the neighborhood centers for local shopping and services.



LAND USE CONCEPT PLAN: CONNECTED NEIGHBORHOODS AND NODES

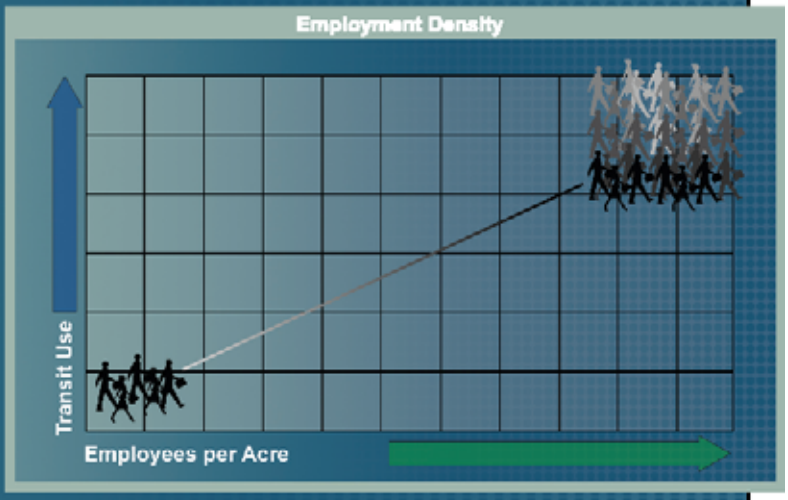
The Land Use Concept Plan is intended to reflect the future for the City of Champaign and serves as the basis for a proposed transportation system plan. The theme of the land use plan is "*Connected Neighborhoods and Nodes*" as presented in Figure 12.

The Land Use assumptions for preparing Champaign Moving Forward included two timeframes. The first timeframe was the year 2030. This timeframe was selected because it is consistent with the 2030 CUUATS Regional Transportation Plan. The socio-economic development assumptions (dwelling units and retail, service and industrial employment) for 2030 are the same as those assumed by CUUATS, although the distribution of the housing and jobs within the City has changed. This 2030 timeframe creates the base from which to develop a transportation plan, identify improvements, estimate cost of those improvements and identify funding options for implementation.

The second timeframe is for Post-2030. The Post-2030 period does not have a specific date, but might be in the 2040 to 2060 time horizon. The reason for selecting a Post-2030 timeframe is two fold. First developing a future development pattern that has the density mix of uses that can be connected with alternative transportation modes including transit, bicycle and pedestrian may take longer then 2030. The second reason is that the Post-2030 horizon provides a framework for corridor preservation. It is very difficult to widen and improve an arterial located in an established neighborhood.

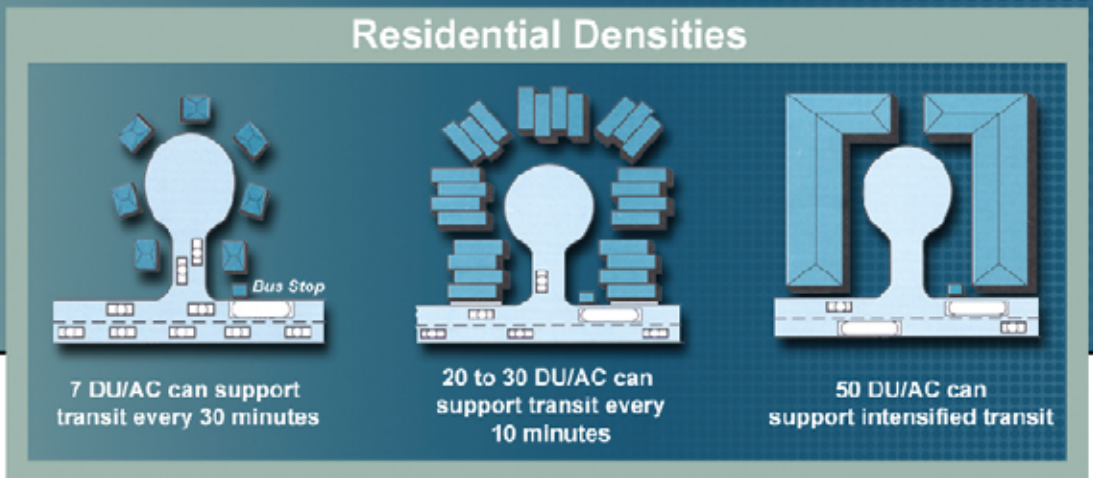
Density Affects Transit Mobility

Although many cities claim that they desire a balanced transportation system that provides for automobile, transit, bicycle and pedestrian mobility, they often do not provide the land use mix and densities to promote a balanced transportation system, particularly for transit.



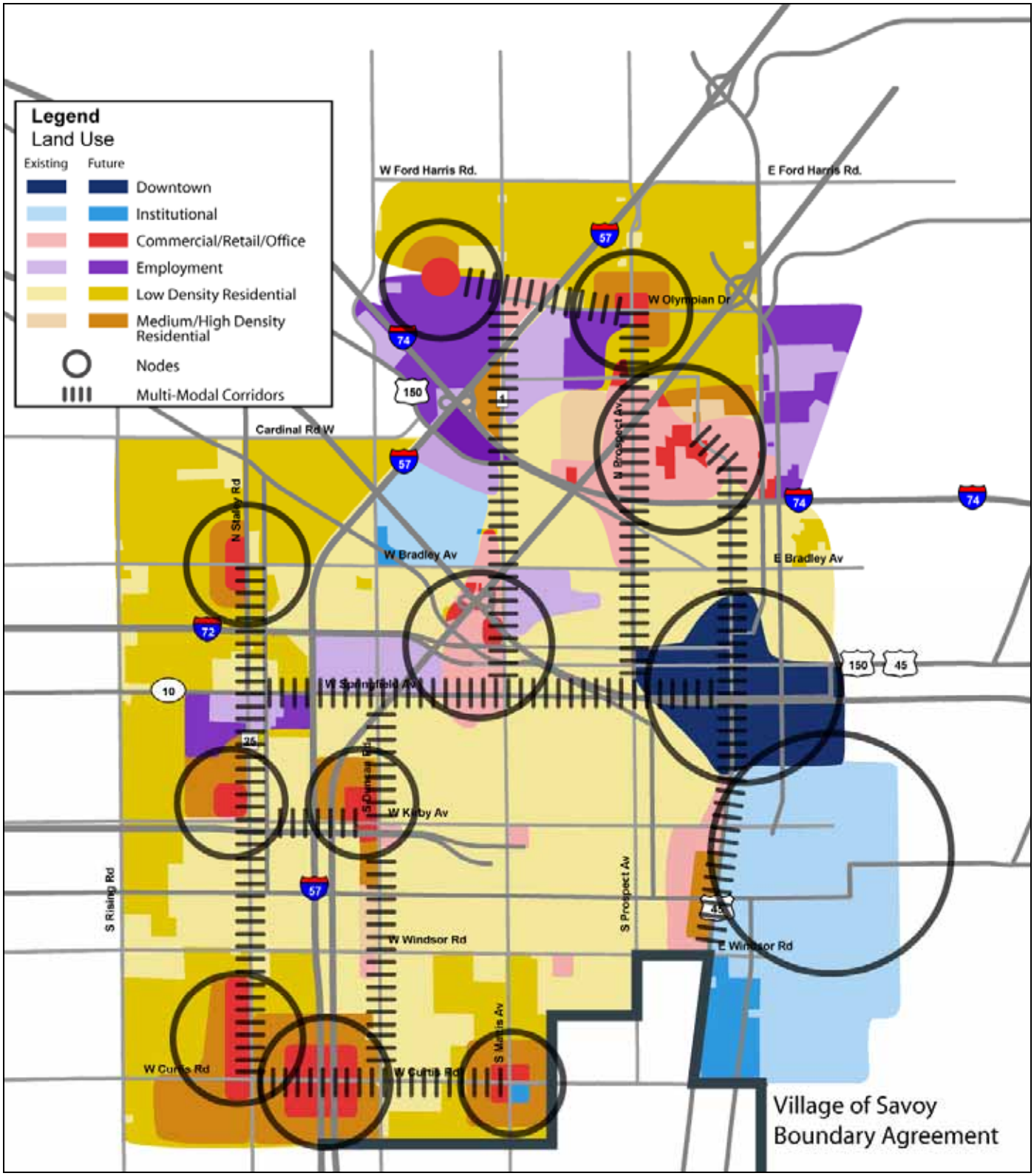
Historically, medium to high transit connectivity captures 5% or greater of commuter trips. As densities go down, so does transit viability. As an example, to provide for basic bus transit service with a bus running every 30 minutes in the peak period and one hour during the non-peak periods, there is a residential density need of about seven dwelling units per acre within the typical one-quarter mile walking area around the transit stop. If dwelling units are increased to 20 to 30 per acre, bus transit frequencies can be increased to about once every 10 minutes during the peak hours. At this level of frequency, ridership increases significantly as patrons no longer are concerned about transit schedules, as they know a bus will be showing up within a short period of time. Intensified transit service requires 50 dwelling units an acre or more to be supported.

Similar to residential densities, employee densities must be of a minimum level of between 50 and 60 employees per acre to support local bus service. Higher employee densities would permit higher frequency service.



Source: Denver RTD

FIGURE 12: LAND USE CONCEPT PLAN



Source: LSA Associates, Inc.
October 24, 2007

Additional right-of-way to accommodate the widening can impact the development frontage that was built to serve a lesser roadway. The purpose of the Corridor Preservation is to preserve the future right-of-way that might be necessary to support increased development after 2030, while only requiring improvements for the 2030 horizon.

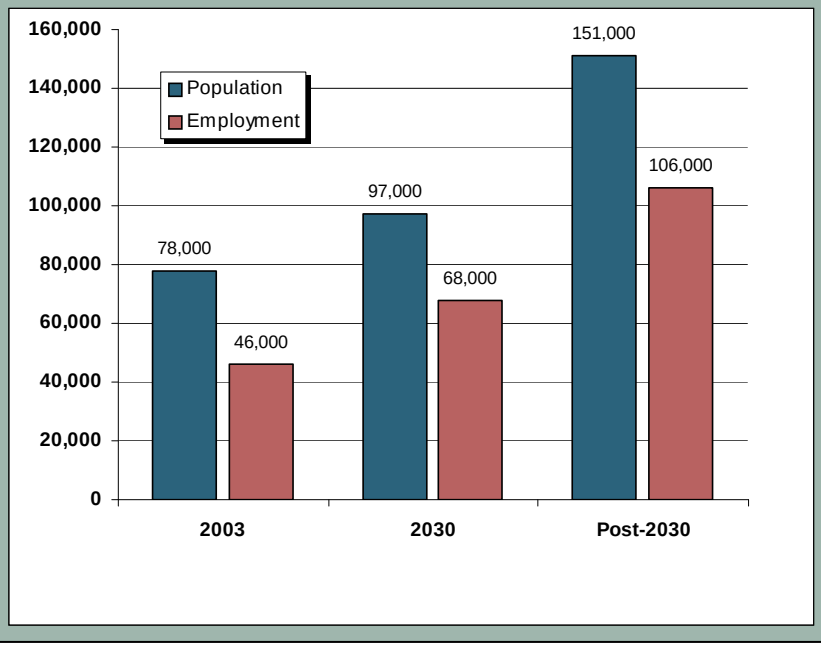
In the development of the Land Use Concept Plan, all previously approved residential and non-residential developments were included in the Plan. Additional development was targeted for the downtown and University of Illinois area. In addition, a number of nodes were identified for mixed-use development. These are as follows:

- Champaign Downtown;
- Market Place Map
- University of Illinois;
- Curtis Road Interchange;
- Springfield at Duncan and Staley;
- Country Fair and Church;
- Olympian west of Mattis Avenue;
- Mattis Avenue and Curtis Road;
- Bradley and Staley;
- Kirby and Staley; and
- Kirby and Duncan.

Population and Employment

The current 2006 population estimate for the City of Champaign is approximately 78,000. Based on local, regional, and state forecasts, the City's population growth will increase by 24% to 97,000. The land use concept plan of connected neighborhoods and nodes would accommodate almost a doubling in population to about 150,000.

Employment will also increase at approximately 40% between 2006 and 2030. This employment growth will occur at a higher rate then residential, which would indicate additional employees will be living outside the City of Champaign.



In review of Figure 12, Land Use Concept Plan, it is these nodes that provide the density, mix of use and density which can support transit and alternative modes including walking and bicycling along multi-modal travel corridors. The long-term objective of these nodes is that they will have the density to support viable transit service with pedestrian and bicycle connections. Higher density residential would be targeted for locations adjacent to the activity centers with lesser density residential areas located between the nodes.

Node Design

Multi-modal node design concepts provide the basis for expanding land use planning and site design to accommodate opportunities for enhancing the use of various alternative transportation modes – most notably public transportation, walking, and biking. The node design recognizes the link between land use and transportation. It will likely not be applied to every node the same way.

However, common elements include the presence of mixed-use retail, office, and residential land uses, connected by complete streets, transit-friendly design features, and accessibility to alternative modes of transportation.

The Connected Neighborhood and Node design encourages a rich diversity of compatible and complementary land uses. Such uses should relate to the physical scale and character of the neighborhood and enhance linkages to surrounding uses. The size, shape, and location of buildings on their parcels should create patterns that help define neighborhood character. New development should be compatible with and compliment existing development and further the feel planned for the area. This overall design principle can be achieved through a variety of approaches.

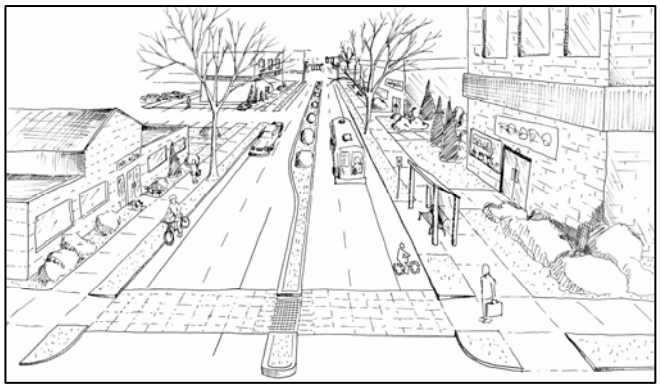
- **MIXED AND MULTIPLE-USE DEVELOPMENT.** Public policies and standards should accommodate the integration of retail, office, service, entertainment, education, and residential land uses. The specific mix, amount, and intensity of such uses will vary depending upon the type of development projected for the neighborhood. Some areas may have higher concentrations of commercial uses with residential uses complementing these activities. In other locations, residential uses may serve as the dominant land use pattern with local office, retail, and services supporting the mix of uses.

  In general, these developments have a conveniently located commercial area containing a mix of office, retail, and service uses. The core commercial district should be centrally located to support transit usage. The size and intensity of the center will vary to fit the needs and preferences of the neighborhood it supports.

- **MIX OF HOUSING TYPES.** Residential development is a key ingredient to the ultimate success of any multi-modal development. No single form of residential use is likely to be called for in this style of development. Diversity of ownership patterns, price ranges, and building types should be considered.

- **INTENSITY OF DEVELOPMENT.** The intensity of development will typically transition from a higher level of development near the core of the district to lower levels in the surrounding areas. Residential densities will vary in accordance with the projected buildout of the district, ranging from 60 units per acre in a downtown setting to as low as four to seven units per acre in suburban areas. In general, the higher the density of residents within an area, the greater the potential for sustaining a diversity of modal choice.

- **BUILDING PLACEMENT AND ORIENTATION.** Design guidelines should encourage appropriate placement and orientation of buildings. Buildings aid in defining the street right-of-way and pedestrian space. The main entryway to commercial buildings should face streets, plazas, or parks.



- **WINDOWS AND DOORS.** Windows and doors are arranged to "enliven" the street and provide visual interest in order to encourage walking and use of other alternative transportation modes. Blank walls along pedestrian ways should be avoided. Windows should be placed at ground level. Fenestration standards may be used to promote visual interaction between the street and adjacent buildings. Standards are set to ensure a minimum level of window placement along public ways relative to window length, height, and materials.

- **BLOCK SIZE.** The length of any given block can be a critical design element in determining the success of multi-modal developments. The longer the block length, the less appealing the development for foot traffic and on-street interaction. The length of any block within a node should generally be no longer than 500 feet. Blocks should be delineated by either streets or major pedestrian separations.

- **FOCAL POINTS.** Locating transit stations/stops within the center of node activity provides a visual and functional focal point to aid in generating ridership and heighten the sense of user security and orientation.

What are Basic Criteria for Development Nodes?

Land Use	• Contain a variety of land uses, including both employment and residential. • Include land uses promoting pedestrian, bicycle, and transit use.
Appropriate Density and Intensity of Land Uses	• Sufficient densities to demonstrate transit ridership. • Sufficient intensities in and around central cores. • Sufficient intensity along major transit corridors.
Interconnected Street System	• Adequate levels of service for bicyclists, pedestrians and transit. • Appropriate numbers of connections within the street network. • Connected pedestrian, bicycle and transit network. • Convenient modal connections. • Convenient connections to regional transportation.
Design	• Adequate access for pedestrians and bicyclists to transit. • Transit-oriented development. • Shorter block length providing easier access and better quality pedestrian environment.
Additional Considerations	• Special considerations given to schools and their multi-modal needs to provide a safe, accessible environment for students. • Reduction in vehicle miles of travel.

Node Design Guidelines

1. Modify the land development code to provide for an appropriate density, intensity, and mix of land uses to support multi-modal transportation, and specifically to ensure:

   - A strong central core consisting of government centers, transit stations, or town square surrounded by relatively high density/intensity residential and non-residential development;
   - A compatible mix of land uses that supports alternative modes of transportation and promotes activity during peak and non-peak hours; and
   - Proximity of shopping, services, and employment centers to each other and to the surrounding residential uses to facilitate walking and bicycling, as an alternative to driving.

2. Maximize internal circulation and minimize conflicts with State highways and other major arterial roadways that have the primary function of moving high volumes of statewide and regional traffic. Where such roadways are present, a minimum of two (2) safe pedestrian crossings shall be provided per mile.

Preferred Mix of Land Uses

Land Use	Preferred Mix*
Open Space/Parks/Recreation	5 – 15%
Office/Commercial/Industrial	30 – 70%
Residential	20 – 60%

** Select a percentage that reflects a reasonable target for the specific development node.*

3. Establish multi-modal street cross sections, design standards, and operational measures to ensure streets are safe, convenient, and appealing for all modes of travel including transit, automobiles, trucks, bicycles, and pedestrians.

4. Provide a dense, interconnected network of local and collector streets that supports walking, bicycling, and transit use, while avoiding excessive traffic in residential neighborhoods.

Promote Activity at All Hours

Land Use	Peak	Off-Peak
High Density Residential	Yes	Yes
Commercial/Office	Yes	
Destination Retail		Yes
Convenience Retail	Yes	Yes
Entertainment		Yes
Institutional	Yes	Yes
Day Care	Yes	
School	Yes	
Grocery Store	Yes	Yes
Restaurants	Yes	Yes

5. Provide direct bicycle and pedestrian connections within and between residential areas and supporting community facilities and services, such as shopping areas, employment centers, transit stops, neighborhood parks, and schools.

6. Give special consideration to schools and their multi-modal needs to provide a safe, accessible environment for students by giving high priority to bicycle and pedestrian facilities within a two-mile radius of all schools in both new development and re-development.

7. Give special consideration to areas with concentrations of students, seniors, low-income families, or others that are more dependent on modes other than the automobile to provide a safe, accessible environment.

8. Ensure that new developments or re-development projects contribute to providing a safe, convenient, comfortable, and aesthetically pleasing transportation environment that promotes walking, bicycling, and transit use. Appropriate improvements or enhancements to the multi-modal network may be required as a condition of development approval.

9. Work with CU-MTD to ensure that the community is well connected via transit to major trip generators and attractors both inside and outside the community, that transit stops and waiting areas are safe and comfortable, and to enhance intermodal connections.

10. Incorporate Transportation Demand Management (TDM) strategies to alleviate congestion. A range of techniques can be considered, including vanpool/ridesharing programs, parking management, transit vouchers, flextime, and others.

11. Orient buildings to provide pedestrians and bicyclists with easy access and a visually interesting environment that reduces perceived travel distances and increases the understanding of the bicycle and pedestrian network.

Parking

The traditional method for determining the amount of parking based on zoning codes of parking spaces per dwelling unit or 1,000 square feet within the nodes is not appropriate for a number of reasons as follows:

1. Node parking serves all uses which have different parking demands. Uses such as office and employment are greatest during the day, retail during the mid-day and evening and residential at night. This shared parking results in a total demand less than the sum of individual demands.

2. One of the objectives of the connected neighborhoods and nodes is to provide multi-modal infrastructure which results in a shift from the automobile to transit, bicycle and walk. Therefore the parking demand for these uses will be reduced with shifts to alternative modes.

3. Excess parking creates a negative visual and functional impact of the node design through decreased density and longer walking distances between uses.

Two actions are recommended for parking within nodes. The first is to develop a revised set of parking standards within the zoning code which establishes reduced parking requirements within nodes. These standards might vary by type of node where the downtown and campustown nodes might result in a greater reduction than outlying nodes targeted for future development. In addition it may be desirable to establish a maximum parking rate in addition to the lower minimum rate.

A second action would be to require a shared parking study for the nodes as they will be developed. This study would address the mix of uses and their parking demands by time of day for determining a peak parking demand.

Cruising for Parking

Studies have determined that a surprising amount of traffic in our downtowns is not caused by people who are on their way somewhere, but rather it is caused by people who have already arrived and are looking for a place to park. Even a small search time per car increases the amount of traffic. This problem is exasperated when curb parking spaces are priced lower than off-street parking. These on street under priced curb spaces are quickly filled and become hard to find.

The parking meter costs within the downtown and campustown should be reviewed. If parking is regularly filled to capacity, the parking fees should be raised, to where patrons find the off-street parking costs are equal to or less than on-street parking. The on street parking meter costs should be raised until the parking area is about 85 percent filled. If spaces are still full during other hours, the city could continue to nudge meter rates upward during those times until the occupancy is about 85 percent all day. With the increased parking meter structure persons arriving downtown can choose to 1) take an available space at the higher rate, 2) park where prices are lower and walk farther to their destinations, 3) park off-street, 4) carpool and split the cost of parking, or 5) take public transit, ride a bike, or walk all the way to their destinations.

Downtown/Campustown Parking Policies

Policy 1:

Most meters in the Core will be used for short term parking while meters in the Fringe will offer more long term parking.

Offering longer term parking opportunities in the Fringe that may be less expensive than in the Core would encourage employees and frequent visitors to the core that stay for extended periods of time to save money and hassle by parking a little further away and walking an extra block or two to the Core. This will keep on-street meter parking in the Core available for customers and thus increase turn-over and availability. With this policy it is anticipated that all on-street meters in the Core would be short-term parking (up to two hours) but there would be still be some long term meter opportunities in the Core, specifically in select off-street surface lots and some spaces in the new parking structure.

Policy 2:

Whereas surface parking in the Core is not acceptable and will be phased out over time, off-street surface parking in the Fringe is acceptable until such time that the area is included in the Core.

Parking in the Fringe is expected to be readily available and perhaps more convenient than some areas of the Core. In many cases, surface parking in the Fringe will be used for employees who work in the Core. This allows the Core to continue to grow while still allowing more affordable parking opportunities within close proximity to the Core, in some cases only one block.

For new developments in the Core, on-site parking will continue to be required for residential use. For large-scale mixed-use developments the City will look for opportunities to partner with developers to increase public parking supply and address increased demand through the construction of parking structures.

The Downtown Plan recommends that parking be supplied in structures rather than surface parking lots. However, parking structures are considerably more expensive to build than surface parking lots, and the location of the structure needs to be carefully considered. This presents the question of whether parking structures should be built ahead of demand or in response to demand. To allow the momentum of downtown to continue, Policy #2 suggests that surface parking lots should be made available for redevelopment without immediately replacing those lost spaces. This policy suggests that if that development is large in scale, partnerships will be sought to provide structured parking similar to the example with M2 and the Hill Street parking deck.

Downtown/Campustown Parking Policies

Policy 4:
The City shall annually address parking management strategies Downtown and make ongoing recommendations.

Downtown continues to evolve and change every year. Therefore, it is important to understand parking behavior and demand and ensure that management systems are adequately serving the parking needs for downtown. Annually addressing parking strategies allows Staff to evaluate if areas of the Fringe should be added to the defined Core.

Policy 5:
Alternate transportation will be promoted to reduce vehicle parking demand and to avoid the cost of providing additional public parking.

The recent survey of downtown business owners indicates that a very low percentage of employees commute to downtown by modes other than car. This is true even though downtown is a primary hub of the CU-MTD. Promoting alternative modes of transportation can only help alleviate parking concerns. Additionally, a higher use of alternative transportation modes can reduce the need for additional costly parking facilities.

TRANSPORTATION VISION

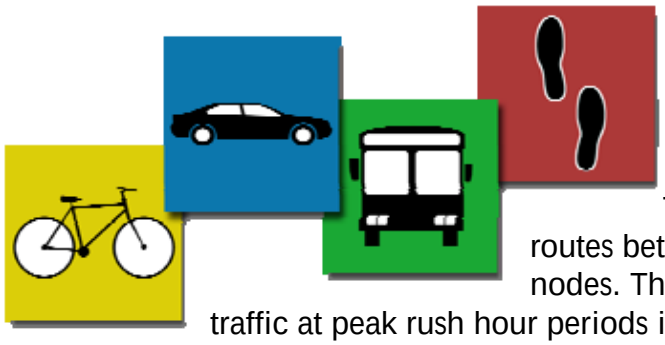
Champaign's transportation system is envisioned as a multi-modal network of roads, bicycle lanes and paths, transit services, and pedestrian facilities that will support the planned uses in the City by providing mobility to residents and visitors. The term *multi-modal* refers to the provision of travel mode options, including the automobile, bicycle, pedestrian, and transit. The goal is to provide a seamless transportation system that facilitates easy and efficient movements between travel modes. The intent is to create a balance between various travel modes so they work to complement each other.

The City's downtown reflects the City's historic development patterns and opportunities for multi-modal travel. However, as identified in the Mobility Report Card, transportation priorities over the past several decades have shifted, focusing almost solely on accommodating automobile travel. Input received from the community indicates a strong desire to return to a more balanced approach to funding and implementing transportation projects by expanding opportunities for alternative modes of travel and mobility for the community. This effort must acknowledge the community's current dominant mode of travel (the automobile) while seeking greater usage of alternative transportation modes.

The City recognizes that expanding and enhancing travel choices takes time. Clear actions can be implemented today to improve the transportation system. However, other actions are incremental and can only be accomplished over a long period of time. The Plan recognizes the link between land use policy and transportation and provides guidelines to ensure that new development and re-development proposals accommodate all travel modes.

The goal of the Champaign Moving Forward is to enhance the overall quality of life of the City of Champaign by providing transportation choices and mobility to all residents of the community. Mobility for the young and old, the able and those less able, those with means and those with lesser means, is essential to the City's economic vitality.

CONNECTING NEIGHBORHOODS AND NODES



The transportation vision for connecting neighborhoods and nodes is a multi-modal system that incorporates all travel modes into a comprehensive, integrated transportation system.

The Multi-Modal Corridors are primarily travel routes between nodes and from neighborhood areas and nodes. These corridors accommodate a high volume of traffic at peak rush hour periods in an efficient manner. Traffic signals are typically synchronized to maximize travel flow and minimize congestion. Multi-Modal Corridors provide the framework for transit service requiring good pedestrian facilities to the corridor and along the corridor. Multi-Modal Corridors are dominant during morning and evening rush hours. A separation zone between vehicle travel lanes and the pedestrian way is utilized for transit shelters, street trees, furnishings.

Several important themes are associated with the multi-modal transportation system. One is balance. The City's transportation system has been historically influenced by the automobile as the primary mode of travel. By integrating all of the travel modes, Champaign Moving Forward aims to elevate the alternative modes to achieve a balanced system that offers several travel opportunities to all residents and visitors of the City, including those who do not drive. While it is likely that the automobile will remain the primary travel mode for the foreseeable future, the move towards a more balanced system of modes will eventually reduce its influence in our built environment and enhance the quality of life in the City.

Connections between neighborhoods and nodes are along multi-modal travel corridors. These corridors are fundamental for linking the transportation modes together and for integrating activities within developments.

CHAPTER 3: CONNECTED NEIGHBORHOODS AND NODES

The relationship between land use and transportation is another important element of the System Plan. Based on valuable public input, there is strong public support for a move from a dispersed development pattern to system nodes with mixed-use activity, connected with all modes of transportation.

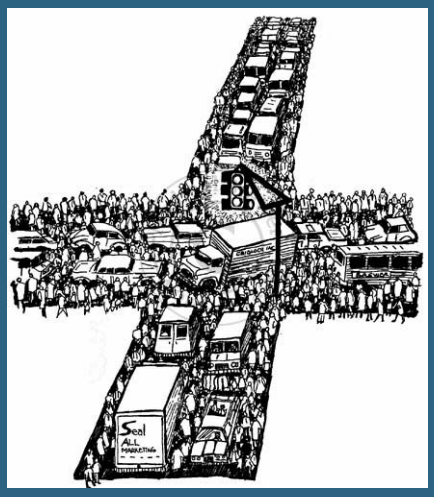
An important aspect of the land use and transportation relationship is the Development Review Process. This process, defined in the City's Subdivision Code, is used to review new development proposals for their compatibility with the transportation system, among other objectives. As discussed subsequently, Champaign Moving Forward provides recommendations to enhance the multi-modal considerations during the development review process.

Issues (Balance of Modes, Growth and Congestion, Changing Markets, and Quality of Life)

A number of questions were identified during the planning and public input process early in the Plan's preparation to facilitate the development of a multi-modal transportation plan. The public assisted in determining the issues of importance to the community and they responded to the questions with numerous ideas and suggestions for improving the system. The issues are summarized below by category.

BALANCE

- At what locations in Champaign could the various transportation modes be better connected?
- What is Champaign's multi-modal funding priorities?
- How does development within the Southwest Transit District Area get integrated into a multi-modal system within the City?



GROWTH AND CONGESTION

- What transportation improvements will be necessary to keep pace with development?
- What land use adjustments are desired to make the transportation system work?
- How are growth policies in surrounding jurisdictions affecting Champaign's transportation system?
- How can the City work with regional interests to plan a coordinated system, including transit?

DEVELOPMENT REVIEW PROCESS

- What multi-modal improvements should the City require when reviewing applications for development?
- To what extent should connections between developments and the multi-modal system be required?

CHANGING MARKETS

- What transportation alternatives are necessary to accommodate changing travel markets, including the aging and disabled populations?

QUALITY OF LIFE/ENVIRONMENT

- What mix of future transportation improvements best supports the City's quality of life?
- How can travel delays be minimized?

Why establish a multi-modal transportation system?

Establishing a successful multi-modal transportation system can provide many benefits to a community and its residents. The multi-modal transportation system provides an alternative to the typical, disconnected, auto-dependent developments that are often seen throughout the country. Shortened distances between work, home, and shopping areas promote walking and bicycling; greater emphasis on transit boosts ridership; and increased pedestrian activity heightens security. With automobile dependency reduced, expenditures that would otherwise be dedicated to building and widening major roads can be used for sidewalks, bicycle routes, transit facilities, and other improvements aimed at supporting alternative modes of transportation. Multi-modal transportation options provide an alternative to automobile travel, resulting in reduced roadway congestions, better air quality, and improved quality of life through mobility choices.

CHAMPAIGN MULTI-MODAL CORRIDORS

The multi-modal corridors are the major transportation facilities which accommodate auto, bus, bicycle, and pedestrian travel. These corridors provide for travel across town and connect with the regional transportation system. These corridors also support the opportunity to build distinctive, vibrant, high-quality, and high-density transit based linear neighborhoods that are attractive to pedestrians.

We can increase travel efficiency in how we integrate future land uses along these multi-modal transportation corridors. In the future, these corridors will facilitate linking different modes together (i.e., bikes on buses or being able to park once and walk to multiple destinations), giving people workable choices to travel. Information systems can also greatly improve how we travel in the future. Using technology to provide up-to-the-minute information on bus arrival times, carpool availability and road conditions will make transportation choices more convenient "Smart" transportation can also help us provide workable transportation options for our aging population.

The ideal starting and ending points of a multi-modal corridor are located at nodes which contain major activity uses. Between these nodes, a significant amount of travel demand is expected. Multi-modal corridors are typically at least two miles in length.

Champaign Moving Forward identified eight multi-modal transportation corridors (three east-west and five north-south corridors) and called for improving all modes of travel along them. These multi-modal transportation corridors include:

North-South Multi-Modal Corridors

- Staley Road: Curtis to Bradley
- Duncan Road: Curtis to Springfield
- Mattis Avenue: Springfield to Olympian
- Prospect: Springfield to Olympian
- Neil: Windsor Road to Town Center Boulevard

East-West Multi-Modal Corridors

- Curtis: Staley to Mattis
- Springfield: Staley to Neil
- Olympian: Duncan to Prospect

As these corridors carry a majority of the trips in the community and link important activity and commercial centers, maximizing their efficient trip-carrying ability requires improving the relationship between the Multi-modal transportation system, land use and design along these corridors.

Characteristics of a Quality Multi-Modal Transportation Corridor

- A primary corridors in the community which connects to the regional transportation system;
- A high frequency transit service for its length and connections to regional transit services;
- A high quality pedestrian and bicycle facilities allowing for safe and convenient travel along the corridor;
- Numerous safe and convenient crossing opportunities of the corridor, including underpasses and signalized intersections;
- Pedestrian and bicycle access to the corridor allowing easy access to transit and facilities on the corridor;
- A mix of uses with a high concentration of users including residential areas which produce trips and commercial retail, office and business activity centers;
- A high-quality, pedestrian-friendly design in the nodes.

MULTI-MODAL CORRIDORS GOALS AND OBJECTIVES

Each of the eight multi-modal corridors is unique and requires different types and level of investment. The following summarizes key goals and objectives for each corridor. General requirements for all multi-modal corridors are also contained in the roadway, transit, bicycle, and pedestrian chapters of this report.

What Multi-Modal Corridors Include

Roadway

- Traffic flow operational improvements through intersection enhancements focusing on system "bottlenecks";
- Roadway improvements which support multi-occupant vehicle use;
- Roadway-related functional efficiency and safety) improvements; and
- Signal coordination optimization based on current traffic flow patterns.

Pedestrian

- Complete sidewalks that provide direct and continuous connections between destinations and to transit;
- Enhanced pedestrian crossings at strategic locations; and
- Pedestrian signals and crossing count-down heads and signal locations.

Bicycle

- Complete bicycle trails, lanes and route system to provide direct and continuous connections;
- Safe street crossings; and
- Bicycle route signage.

Transit

- High-frequency transit;
- Enhancements at key high-frequency transit stops which include transit signs and pavement platforms. At higher demand transit stops include shelters, benches and trash receptacles; and
- Operational system efficiency improvements, such as bus bypass lanes, bus signal prioritization and other improvements to increase the efficiency of the transit system.

MULTI-MODAL CORRIDORS RECOMMENDED IMPROVEMENTS

The following provides a summary of issues and recommended improvements for each of the eight multi-modal corridors. These issues and recommendations are in addition to the recommendations for multi-modal corridors contained in the roadway, transit, bicycle and pedestrian vision chapters of Champaign Moving Forward.

East-West Multimodal Corridors

Staley Road: Curtis to Bradley

Located one-half mile west of I-57, Staley Road is the most westerly north-south arterial within the City except for Rising Road. Currently, the majority of Staley Road is a 2-lane rural roadway with some improvements to four lanes with detached sidewalks along short sections. The 2030 Roadway Plan identifies this facility as a 4-lane Major Arterial. With City of Champaign Street Standards, Staley Road should provide for two lanes of travel, a landscaped parkway and a 10-foot multi-use trail on both sides, with a continuous center left-turn lane in the middle.

Because the majority of this corridor is just beginning to be developed, Staley Road provides the City with the opportunity to build the ideal multi-modal corridor at the outset, rather than trying to retrofit an existing corridor. Abiding by the City's Street Standards and not waiving improvements will be very important.

Ideally this corridor should be constructed with a raised median to channel traffic and for potential use as a refuge island for pedestrian and bicycle crossings. Limiting vehicular access points will also be important to preserve the carrying capacity of the roadway. This is particularly important at major east-west intersections such as Curtis, Kirby, Springfield, and Bradley.

As part of the design, identifying where future pedestrian and bicycle crossings should be will be important.

Duncan Road: Curtis to Springfield

Located one-half mile east of I-57, Duncan Road is a 2-lane roadway with adjacent development from south of Windsor to Springfield. There are major stretches of this facility that do not have curb gutter, sidewalk, nor bicycle facilities. In essence this roadway is a rural facility, serving an urban environment. This facility is ultimately identified as a 5-lane arterial as identified in the Roadway chapter.

Critical to the success of Duncan becoming a multi-modal corridor is the design and construction of this facility to an arterial, including four lanes, curb, gutter, landscaped parkway, and a 10 foot multiuse trail or a 5-foot side walk and 5-foot bike lane on both sides of Duncan.

Access control will be very difficult given the significant number of homes that take direct access off of Duncan. As traffic volumes increase, it will become difficult to back out of these driveways.

With projected major development occurring at the I-57 Curtis Road Interchange, it will be critical to design Duncan from between Curtis and Winsor Road at the ultimate vehicle, bicycle, and pedestrian improvements possible to allow for entering and exiting traffic an opportunity to get to Winsor Road and alternative mode connections.

Mattis Avenue: Springfield to Olympian

Mattis Avenue at Springfield Avenue represents one of the greatest opportunities for a transit hub at the Country Fair Shopping Center. It is centrally located in the City and a redevelopment of Country Fair center could include a transfer center with sufficient park and ride space and supporting convenience retail. The City of Champaign and CU-MTD have grant money to facilitate this center. Should it be built it will make the multi-modal corridors connecting Country Fair even more important.

Mattis is a designated 5-lane arterial and is currently constructed at this width. There are three specific areas of concern associated with Mattis as a multimodal transportation corridor, all associated with alternative modes.

The first issue is that the corridor is not a pedestrian friendly corridor. Although there are sidewalks along much of the length of Mattis, there are some missing segments which need to be completed, particularly where Mattis crosses I-74. Pedestrian crossings at signalized intersections can also be intimidating. The lack of raised islands creates a vast open intersection where painted medians and turn lanes do not control vehicle movements nor provide a refuge island. Countdown signal heads would be an improvement to notify the pedestrian as to how much time there might be to cross. There is also a lack of safe pedestrian crossing of Mattis in between signals. There should be a safe crossing at major schools, park and bicycle routes and at least one for every quarter of a mile. Pedestrian crossing treatments utilizing pedestrian activated flashing yield to pedestrian signs would be appropriate.

The second issue is that this entire corridor lacks any bicycle facilities. The narrowness of the right-of-way limits the ability to add bike lanes along Mattis south of Bradley. Adding bike facilities along Mattis north of Bradley is important. For Mattis, south of Bradley, a parallel route to Mattis, such as illustrated on the Bicycle Vision Plan and connections to Mattis should be pursued.

The third issue is enhancements for transit that include improved stop locations with amenities beyond a sign. These amenities could include a concrete pad and bench, with a shelter at the higher demand areas or at transfer locations.

Prospect Avenue: Springfield to Olympian

Prospect Avenue is a gateway from the historic Champaign to the newer Market Place. Currently Mattis is constructed at the 5-lane arterial designations per the recommended Roadway Vision Plan. Whereas Prospect Avenue south of Bradley has a fairly complete pedestrian system, the corridor north of Bradley is extremely pedestrian unfriendly. This section of Mattis is also one of the few areas of the City that currently is congested, creating difficulties for not just vehicles, but the other modes as well. Areas such as West Bloomington Road and crossing I-74 with high-speed on- and off-ramps create a hazardous condition for pedestrians and bicyclists.

Prospect is strategically important as a multimodal corridor because of its connections and from the fact that I-74 creates a barrier with very few alternatives.

The area of Prospect from Bradley to Interstate Drive requires a detailed safety study to determine solutions for improving pedestrian, bicycle, and transit mobility.

Neil Street: Windsor Road to Town Center Boulevard

Neil Street is very unique road with many facets; it is also US-45. At the south end of the City, Neil is fairly wide 5-lane arterial, has sidewalks on both sides of the street, and is probably wide enough to accommodate bike lanes. As Neil enters the historic downtown, the roadway narrows and northbound traffic is diverted to Walnut Street, where it is reconnected with Neil north of the downtown. The pedestrian system for Neil and Walnut and the downtown is very good, with short blocks, relatively easy to cross streets and wide sidewalks. Neil is a fairly narrow 5-lane arterial north of the downtown to the interchange with I-74. Whereas sidewalks are provided for much of this segment, vehicle travel speeds increase and it makes for a more difficult time for a pedestrian to cross Neil. The narrowness of Neil also precludes bike facilities. The section of Neil north of I-74 is relatively new. Whereas sidewalks were provided, intersection crossings are unfriendly. There was also no provision for bicycles in this area and transit stops tend to be the typical transit sign at the curb with no facilities.

Because Neil Street is made up with so many different facets, there needs to be many different solutions to implement multimodal improvements for the entire corridor. Neil Street is a key entryway node from I-74 into downtown. Not only should transportation improvements be made to make the corridor safer and more accommodating to multi-modes, but action should be taken to beautify the corridor since it is a “front door” to the community and University.

Key pedestrian facilities are missing on Neil Street north of I-74. This includes sidewalks and crosswalks at Marketview Drive, as well as sidewalks along Neil Street north to Town Center Boulevard. These improvements are critical since the land uses in the area include hotels, restaurants and shopping. Not only is there an immediate safety need for these facilities but their absence leaves an impression with visitors to the community trying to walk from these hotels to other uses.

East-West Multimodal Corridors

Curtis Road: Staley to Mattis

Curtis Road is the most southerly east-west corridor. It is for the most part un-constructed, including the Curtis and I-57 interchange, which creates an excellent opportunity to doing it correct.

Curtis Road is identified in the CUUATS Long Range Transportation Plan as an “Enhanced Urban Arterial Fringe Road,” which will serve as the southern portion of a regional transportation loop. Curtis Road is also a key gateway to the University of Illinois and the interchange at I-57 will include design elements signifying this gateway to campus.

Key to making this corridor work is how access is provided to major development nodes at the I-57 interchange, Curtis and Mattis. Secondary routes to these destinations other than Curtis are critical. Connections between parcels, bicycle facilities and a robust pedestrian network will allow this area to form into a multimodal area.

The segment east of Duncan has residential units take driveway access to Curtis which will become problematic for exiting as traffic along this corridor increases.

Bicycle facilities along Curtis will be very important as these facilities will provide connections from a major portion of the City's residential area to the future commercial retail, office and service uses.

Springfield Avenue: Staley to Neil

Springfield is a major and important east-west connector with many variations of street and right-of-way cross sections. Springfield is designated a six lane arterial west of North County Fair Drive, a four lane arterial from North Country Fair Drive to Russell Street and a two lane arterial from Russell to the downtown. This future designation reflects the realities of the narrowing right of way from the west to the east.

Note that there are significant "back-ups" on portions of Springfield Avenue during rush hour times, especially Prospect Avenue and at Neil Street. However, the preservation of existing neighborhoods is important and widening Springfield Avenue would negatively impact these neighborhoods. Therefore, a combination of tolerance with traffic, an emphasis on alternative transportation, and encouraging some traffic to use different routes is the best approach for this portion of the corridor.

Whereas Springfield will remain an important east-west facility for the automobile, the restricted number of lanes will restrict traffic and result in users diverting to other routes. The strength of Springfield can be its alternative mode potential. A corridor with high frequency transit and good pedestrian connections would be the recommendation for this corridor. The narrowness of Springfield would also suggest a close by parallel route for bicycle facilities. It should be specifically noted that the bridge over I-57 must be improved to include bicycle and pedestrian facilities.

Olympian Drive: Duncan to Prospect

Olympian Drive is a fast growing area in which a corridor with multimodal opportunities for automobile, transit, bicycle and pedestrian would be ideal at the outset. Olympian Drive is identified in the CUUATS Long Range Transportation Plan as an "Enhanced Urban Arterial Fringe Road," which will serve as the northern portion of a regional transportation loop. It is also a key connection from Urbana, which will be important for strengthening developing industrial parks on the corridor. Also, there is a significant amount of residential growth developing and planned near the Olympian Drive corridor, so providing bicycle and pedestrian facilities connecting commercial areas to the west is critical.

Critical to the success of this corridor is adequate bicycle and pedestrian improvements along Olympian Drive as it crosses I-57. Also important is access control along this facility and alternative mode connections from the corridor to the major nodes along this corridor.