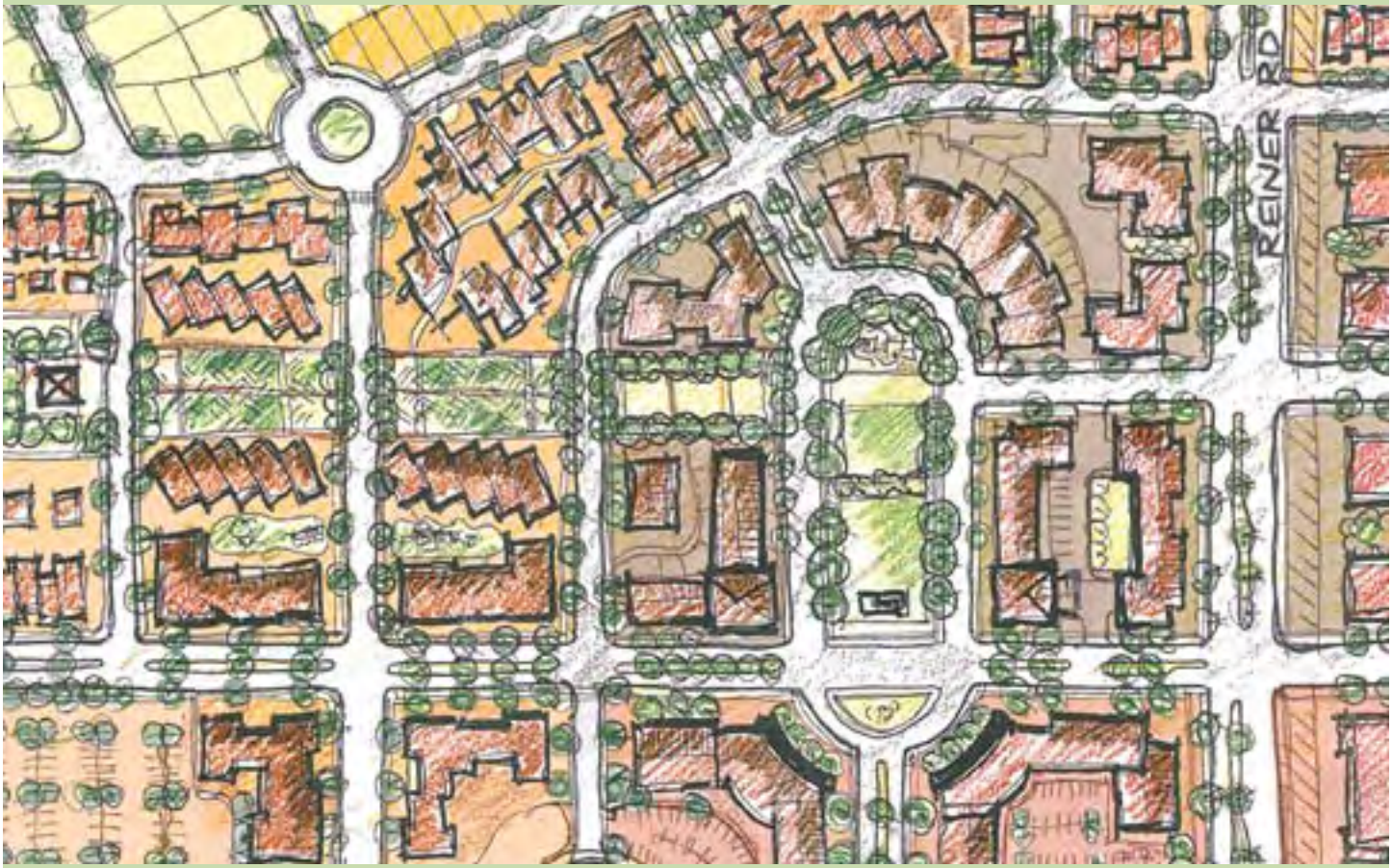
Northeast Neighborhoods Development Plan
Draft – June 16, 2009



Reiner/CTH T Town Center Illustration

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Madison

eventually be in the City of Madison will be guided by the City of Madison's adopted plans, policies, standards and procedures; and may require attachment to the City at the time of development. There is also an agreement to establish and maintain local street connections between existing and future subdivisions. The Cooperative Plan reconfigured the Madison-Sun Prairie Community Separation Area. The Community Separation Area includes the northern portion of the Sun Prairie Community Church Inc. and Madison Crushing & Excavating properties at the northeast corner of Reiner and Nelson roads that includes a relatively steep wooded hillside. It is anticipated that cooperation on many issues will continue in the future, since Madison will share a border with the Town of Burke in the planning area for up to 28 years.

4. **Town of Blooming Grove and City of Madison Cooperative Plan**
   The Town of Blooming Grove and City of Madison Cooperative Plan, which was approved in 2006, includes provisions for the transfer of Town lands to the City of Madison and development requirements that are similar to the Burke Cooperative Plan. The Town of Blooming Grove lands within the planning area are part of the Cooperative Plan's "North Phased Attachment Area." Property in this area may be attached to the City of Madison by a property owner's petition or consent. If this area has not been voluntarily attached by January 1, 2015, the City may attach the property on that date. The Cooperative Plan also permits the City and Town to agree on a different schedule for attachment if the area is not attached on the designated January 1, 2015 date.

5. **Dane County Parks and Open Space Plan**
   The Dane County Parks and Open Space Plan's Koshkonong Creek Natural Resource Area cover portions of the planning area. Specifically, it includes lands northeast of the intersection of Reiner and Nelson roads near Koshkonong Creek and lands in the southeast corner of the planning area that contain Door Creek and adjacent wetlands and drumlins.

   Natural Resource Areas are larger corridors containing valuable natural resources recommended for preservation. They typically include features such as steep topography, water bodies and waterways, wetlands, prairie, forests and agricultural working lands. These areas contain both public and private land and participation by private property owners in conservation programs is voluntary. Permanent preservation within these areas is accomplished by acquiring land or conservation easements from willing sellers and often occurs in cooperation with other units of government and organizations.

J. Sustainability Goals

The City of Madison has become a leader in advancing the principles of sustainability. In 2004, the City adopted *Building a Green Capital City--A Blueprint for Madison's Sustainable Design and Energy Future*. This report defines sustainability as meeting today's needs without compromising the ability of future generations to meet their own needs. A sustainable development is a development whose patterns of production and consumption can be reproduced indefinitely without doing irreparable damage to essential natural ecosystems. Sustainable development is achieved through adhering to the triple bottom line: environment, economy and social equity.

One of the recommendations of the *Building a Green Capital City* report was to adopt a guiding principle on sustainability. In 2005, the City adopted *The Natural Step Model for Communities* as the guiding framework on sustainability. Using this framework, the City aspires to be an ecologically, economically and socially healthy community for the long-term. The Natural Step (TNS) includes four "system conditions" for sustainability:

1. Substances from the earth's crust—fossil fuels and mined minerals—must not systematically increase in nature
2. Substances produced by society must not systematically increase in nature

3. The physical basis for the productivity and diversity of nature must not be systematically deteriorated
4. Human society must be fair and efficient in meeting basic human needs

The TNS program is used to guide many City processes. Each year the City solicits recommendations for an annual "top ten" list of TNS projects that would enhance the sustainability of the City's functions. The TNS projects are then implemented throughout the year with progress reports shared at monthly TNS project team meetings.

During the planning process for the Northeast Neighborhoods, the City recognized that the planning area offered a tremendous opportunity to implement its practices in terms of sustainability. The planning process was included as one of the City's TNS projects for 2009. It was also decided to pursue quantifiable sustainability goals for future development within the planning area. On March 31, 2009, the Common Council adopted a resolution with the following five sustainability goals:

1. Reduce dependence on the automobile
2. Reduce energy consumption
3. Reduce water consumption
4. Infiltrate stormwater on or adjacent to the point of generation
5. Deliver City services in an energy efficient manner

These goals guided preparation of the *Plan* and the *Plan* is intended to serve as a guide for achieving these goals. Background information regarding each goal is provided below. Recommendations and implementation steps to achieve the goals are also provided later in this document.

1. Reduce Dependence on the Automobile

a) The Goal

Capturing 25% of all trips made by persons living in the development area by walking, bicycling or transit and/or reducing household motor vehicle miles of travel (VMT) by 25% (in comparison to a baseline to be determined by staff) through the use of transit-oriented development, traditional neighborhood development, mixed-use development, transit access for early neighborhood residents, transportation-demand management plans, walkable environments, bike facilities, or other transportation-demand management practices.

b) Background Information/Baseline

Household Trip Reduction

According to a survey completed in 2001 as part of the National Household Travel Survey, the modal split for travel by City of Madison residents was as follows:

- Automobile: 80.3%
- Walk: 13.5%
- Bicycle: 2.4%
- Bus: 1.9%
- School Bus: 0.7%
- Inter-city Bus: 0.2%
- Other (air, taxi, etc.): 0.9%

The goal for the planning area is to have walking, biking or transit account for at least 25% of all trips made by residents of the planning area. Transit includes the bus, school bus and inter-city bus categories above.

Household Vehicle Miles Traveled (VMT) Reduction

It is also desirable to reduce household vehicle miles traveled by 25%, in comparison to a baseline, for the planning area. At this time, the data collection and monitoring methods for

household VMT (or VMT per capita) are under development. A specific measurement and monitoring program will be developed as VMT data collection technologies and techniques are refined over time.

c) Primary Benefits of the Goal

- Decreased consumption of fossil fuels
- Decreased air pollution
- Increased exercise

2. Reduce Energy Consumption

a) The Goal

Reducing household consumption of natural gas and fossil fuel-generated electricity by 25% compared to a baseline reflecting recent residential construction, which will be established and included in the Northeast Neighborhoods Development Plan. Progress towards attaining these goals will be through the use of energy efficient construction, alternative energy sources, on-site energy production, conservation education and outreach, or other energy conservation practices.

b) Background Information/Baseline

The baseline for this goal is a 25% reduction in energy use compared to "recent residential construction." Recent residential construction is defined as a dwelling unit built within the City between January 1, 2000 and December 31, 2008. Newer dwelling units are used for the baseline since they typically include improvements in energy efficiency not found in older units.

According to records obtained through the City Assessor's Office and Madison Gas & Electric (MGE) consumption records, the average annual household consumption of natural gas was _____ therms and the average annual consumption of fossil fuel-generated electricity was _____ kilowatts. Therefore, the goal equates to an annual household consumption of natural gas of _____ therms and an annual household consumption of fossil fuel-generated electricity of _____ kilowatts

Note:

City staff are currently working with MGE to obtain consumption information. Once received, consumption figures will be normalized for heating and cooling degree days. To further account for seasonal variance, three years of this adjusted data could then be averaged to provide the baseline.

Since there is a mix of housing types included in the "recent construction" figures and there will be a mix of housing types in the planning area, there will not be a distinction between detached (or single-family) and attached (or multi-family) housing types. Further, it is not intended that there will be a distinction regarding consumption per square foot of living area, development density or family size.

c) Primary Benefits of the Goal

- Decreased consumption of fossil fuels
- Decreased air pollution

3. Reduce Water Consumption

a) The Goal

Reducing residential per capita water use by 25% compared to current city-wide per capita levels through the use of low-flow appliances and fixtures, dual-flow and low-flow toilets, rain barrels, low-impact lawn care design, conservation education and outreach, or other water conservation practices, and to strongly encourage the use of EPA Water Sense-labeled water fixtures, and strongly discouraging the use of outdoor lawn irrigation systems.

b) Background Information/Baseline

The current residential per capita water use, based on an average over recent years, is 73.6 gallons per day. The goal of a 25% reduction equates to a per capita use of 55.2 gallons per day.

The aquifer underlying Dane County is the source of the City's water supply. The Madison Water Utility withdraws approximately 30 million gallons of water per day from the aquifer. Treated wastewater is not returned to the groundwater system, but rather to the Mississippi River watershed via Badfish Creek and the Rock River. This net transfer of water has led to an average 60-foot decline in the water table over pre-development levels. Area springs have dried up, and this has led to a loss of aquatic habitat as well stresses on surface water quality, especially Lake Wingra. Additionally, pumping water from deep wells and distributing it throughout the City is an energy intensive operation. The Water Utility is the largest consumer of electricity in the City.

For these and other reasons, the City of Madison established water efficiency as a priority with the adoption of the 2008 Water Conservation and Sustainability Plan. The Plan sets a goal of reducing city-wide household water consumption by 20% by 2020. The Plan includes information on current usage and strategies to reduce consumption. Many of the strategies to reduce water consumption are included in this *Plan*.

c) Primary Benefits of the Goal

- Decreased impact on the groundwater supply and surface water features such as springs and streams
- Decreased need for additional wells and water distribution infrastructure
- Decreased Water Utility energy consumption

4. Increase on-site stormwater infiltration

a) The Goal

Infiltrating 25% of the stormwater volume on or adjacent to points of generation through the use of rain gardens, green roofs, porous sidewalks and drives, or other on-site stormwater management practices.

b) Background Information/Baseline

Under current stormwater regulations, 90% of the pre-development stormwater volume for residential development projects and 60% of the pre-development volume for commercial development projects must "stay-on" the development site through a combination of infiltration (into the ground), evaporation (into the air) and transpiration (into the air through plants). The goal is to infiltrate 25% of the stay-on volume on or adjacent to the point of generation.

The stay-on requirement is typically met by directing stormwater to a retention pond, which is a permanent pool of water where sediments carried by stormwater are filtered out, and an infiltration basin, which facilitates the movement of stormwater into the ground. These facilities are typically located at the lowest point of the development site and serve the entire development if the topography permits. While constructing large facilities that serve an entire development is considered efficient, infiltrating stormwater on or adjacent to the source through multiple systems is more effective.

c) Primary Benefits of the Goal

- More stormwater will be infiltrated into the ground, which will minimize impacts to the groundwater system and surface water features
- Reduced amount of infrastructure needed for stormwater conveyance
- Reduced erosion from stormwater conveyance to the larger facility
- Multiple infiltration facilities are less prone to failure than one large facility

5. Energy Efficient Service Delivery

a) The Goal

The City deliver services in the most energy efficient method possible.

b) Background Information

As a service provider, the City of Madison and its facilities and operations have a major impact on the environment, the economy and our community. Since the City is both a steward of our environment and a consumer of its resources, it must incorporate the principles of sustainability to ensure that our current and future needs can be satisfied.

Using *The Natural Step* sustainability framework, the City is working to enhance the sustainability of its facilities and operations by reducing its consumption of fossil fuels and other materials extracted from the Earth, reducing its dependence on synthetic and persistent chemicals, and mitigating its impact on physical ecosystems. Since our community will not be truly sustainable unless our residents are healthy, safe and prospering, the City will continue to pursue policies and actions that minimize the barriers that get in the way of residents' ability to meet their basic needs. The City also intends to lead by example.

c) Primary Benefits of the Goal

- Decreased energy consumption
- Decreased pollution
- Decreased waste

where possible.

6. Limited Visual Exposure of Garages and Parking Areas

The design of developments should locate garages and parking areas where they will not dominate the view from the street. In general, parking facilities should be located behind, beneath, or at the sides of buildings, rather than in front. Development on alleys can be used to prevent garage doors from dominating the front facades of homes, particularly on relatively narrow lots. On-street parking should be available on most streets and can reduce the need for off-street parking.

7. Architectural Character

While this *Plan* can lay the foundation, individual development projects will to a large extent determine the future character of the planning area and how well they reflect TND design principles. The design and architectural character of the buildings and other structures are important elements in creating the unified "feel" of a Traditional Neighborhood Development, and in creating an attractive and engaging "public realm." Design objectives include providing architectural variety while maintaining general neighborhood harmony in building characteristics such as height and massing; roof pitch; the proportion and profile of windows, doors and other elements of the facade; the orientation of doors, windows, balconies, porches and roof decks toward the street; and the choice of facade materials and colors.

D. Land Use

The recommended land uses are shown on the Land Use and Street Plan and summarized below. **See Map 6 and Table 3.**

Table 3: Recommended Land Use - Phase 1 Planning Area

Recommended Land Use	Acres	Percent of Total
Low Density Residential (<16 du/ac)		
Housing Mix 1	488.4	23.8%
Housing Mix 2	197.2	9.6%
Medium Density Residential (16-40 du/ac)		
Housing Mix 3	93.4	4.5%
Housing Mix 4	53.9	2.6%
Community Mixed-Use	30.8	1.5%
Neighborhood Mixed-Use	22.1	1.1%
Employment	89.4	4.4%
Utilities	2.6	0.1%
Civic/Institutional	16.4	0.8%
Parks, Open Space, Stormwater Management		
Parks	55.7	2.7%
Other Open Space and Stormwater Management	440.6	21.5%
Street Right-of-Way	562.9	27.4%
Total	**2053.4**	**100%**

1. Residential Districts

The *Plan* recommends development of a variety of housing types within the neighborhoods to meet the needs of households of different sizes, ages, incomes and lifestyles. Although the recommended mix of housing types varies in different parts of the neighborhoods, it is specifically intended that all housing developed within the neighborhoods be well integrated into the community as a whole, and be located and designed to enhance neighborhood identity and encourage engagement and participation in neighborhood activities. Housing units should be a mix of owner occupied and rental housing.

Four Housing Mix Districts

Recommended residential land use areas are divided into four broad districts, Residential Housing Mix 1, 2, 3 and 4. The density range for each Housing Mix District indicates the range of densities that are recommended within the respective Districts. To provide consistency and accommodate comparison, the density ranges correspond with the density categories in the Comprehensive Plan. The Housing Mix 1 and 2 Districts fall within the Comprehensive Plan's Low Density Residential category. The Housing Mix 3 and 4 Districts fall within the Comprehensive Plan's Medium Density Residential category.

Map 6: Land Use and Street Plan (excerpt)

Variety of Housing Within Each District

A variety of housing types and densities is expected to be developed at appropriate locations within each of the four Residential Housing Mix Districts, but many alternative development patterns could create the desired mix and variety of housing types and still be consistent with the general location and design recommendations of the *Plan*. For this reason, specific locations for each of the individual housing types recommended within a residential district are not identified on the Land Use and Street Plan. This approach provides prospective developers with reasonable flexibility and maximum opportunities to be creative and innovative in advancing the objectives of the *Plan*. However, the residential land use district recommendations are not equivalent to zoning district designations, and all developments are expected to provide a variety of housing choices. Specific locations for particular housing types will be identified during the review process as proposed development projects are brought forward for consideration and approval.

Density Organized Around Mixed-Use Districts, Parks

As shown on the Land Use and Street Plan, relatively higher-density housing types are generally recommended at locations closest to the planned Mixed-use Districts, with lower-density types of housing recommended at locations more distant from these Districts. This arrangement places the highest concentration of residents within the closest distances to primary destinations. It also helps reduce vehicular traffic on interior streets since the higher-density uses are also closest to the major streets providing access to the neighborhoods. The exact boundaries between the four Residential Housing Mix Districts shown on the Land Use and Street Plan are somewhat conceptual. Modifications may be considered as specific developments are proposed, provided that the general land use pattern is consistent with the *Plan*'s objectives.

The four recommended Residential Housing Mix Districts are described and illustrated below.

a) Residential Housing Mix 1

The predominant recommended housing type in Housing Mix 1 areas is detached single-family housing on individual lots, but limited areas within these districts may be developed with duplexes, rowhouses and townhouses at appropriate locations identified as development plans for specific subdivisions are prepared.

Housing Types

- Single-family detached homes with a wide range of house and lot sizes
- Duplexes
- Rowhouses and townhouses

Density Range

- Individual developments: less than 16 units per acre
- District average: less than 8 units per acre

The Housing Mix 1 District comprises the largest portion of the recommended residential area. It is specifically recommended that single-family housing developments include a range of house types and lot sizes. The use of alleys to provide rear access to garages is encouraged at appropriate locations. Alley-loaded garages can provide additional design flexibility and reduce the tendency for garages to dominate the streetscape, particularly on relatively small or narrow lots.

Duplexes, rowhouses and townhouses provide higher-density housing options that can be appropriate at some locations. In general, larger groupings of duplexes, rowhouses and townhouses should be located closer to the Housing Mix 2 or Housing Mix 3 Districts, where they will help provide a transition to the higher densities found in those areas. Individual duplexes or small groups of rowhouses also might be interlaced within areas primarily comprised of single-family homes, but careful site and building design is important in order to maintain compatibility and consistency with the character of surrounding development.

The density of the individual housing types in the Housing Mix 1 District should be within the Low Density Residential range of less than 16 units per acre defined in the Comprehensive Plan. The average density of the District as a whole should be less than eight units per acre. An average net density of 6 units per acre is assumed for purposes of estimating the potential dwelling units in the Housing Mix 1 district.

b) Residential Housing Mix 2

The predominant recommended housing types within the Housing Mix 2 District are single-family houses developed at relatively high densities on smaller lots, duplexes, rowhouses, townhouses and small-scale apartment and condominium buildings.

Housing Types

- Single-family detached houses on relatively small lots
- Duplexes
- Rowhouses and townhouses
- Smaller apartment and condominium buildings
  - Buildings with up to 12 units
  - Building lots generally provide front, side and rear yards
  - Buildings up to two stories in height

Density Range

- Individual developments: less than 16 units per acre
- District average: more than 8 and less than 16 units per acre

Housing Mix 2 Districts are recommended in numerous locations within the planning area as shown on the Land Use and Street Plan. Relatively higher density development at these locations will give more residents the opportunity to live within convenient walking and biking distance to mixed-use areas, parks and open space, schools and other neighborhood amenities and features.

Dwelling unit types in Housing Mix 2 Districts should be varied. Large areas of one housing unit types should be avoided. There should be a mix of owner occupied and rental dwelling units.

Detached single-family or duplex units within the Housing Mix 2 districts should generally be developed on relatively small lots consistent with the higher average density

recommended for the District. Rowhouses and townhouses will be more predominant than in the Housing Mix 1 Districts. Rowhouses could be developed along an entire block face, or smaller groupings of rowhouses might be interlaced with multi-unit buildings or detached housing. Apartment and condominium developments should feature relatively smaller buildings of up to 12 units and should include a mix of unit sizes, including larger two and three bedroom units suitable for families with children.

The density of the individual housing types developed in the Housing Mix 2 District should generally be within the Low Density Residential range of less than 16 units per acre defined in the Comprehensive Plan. The average density of the District as a whole should be in the 8 to less than 16 units per acre range. An average net density of 12 units per acre is assumed for purposes of estimating the potential dwelling units in the Housing Mix 2 district.

c) Residential Housing Mix 3

Housing types within the Housing Mix 3 Districts should primarily consist of a mix of owner occupied and rental rowhouses, townhouses and apartment or condominium buildings. Buildings may be larger and taller than in the Housing Mix 2 districts.

Housing Types

- Rowhouses and townhouses
- Apartment and condominium buildings
  - Relatively larger buildings than those in Residential Housing Mix 2 Districts
  - Limited side yards when buildings are located along standard streets
  - Buildings may include front plazas or be grouped around courtyards to create defined common space
  - Buildings up to three stories in height

Density Range

- Individual developments: up to 40 units per acre
- District average: between 16 and 25 units per acre

The Housing Mix 3 District is recommended to encourage higher residential densities at locations closest to the Mixed-use Districts and Employment District. Concentrating relatively high-density housing near these Districts will provide easy access for more residents, increase activity in them and help support the development of neighborhood-serving businesses. At some locations, the Housing Mix 3 District also provides a transition zone between the smaller-scale, lower-density development recommended in the Housing Mix 2 District, and the larger-scale, higher density development recommended in the Housing Mix 4 District and the Mixed-use Districts.

Detached housing types are not generally recommended since the intent of the District is to encourage higher-density uses. Apartment and condominium buildings may be relatively larger and closer together compared to those buildings in the Housing Mix 2 District. Parking should be provided behind or beneath the buildings, or in separate parking courts. In this District, buildings may be up to three stories in height, but the height considered appropriate on a specific property will partly depend on the size and scale of surrounding developments. In general, an "urban" rather than "suburban" design and architecture is recommended. Multi-unit developments should include a mix of unit sizes, including larger two and three-bedroom units suitable for families with children.

Buildings located on the street grid should maintain a "street" orientation and be designed to help define and enhance the public realm along the right-of-way. On a few larger, deeper properties, a multi-building complex of apartments or condominiums may have some buildings that are not located directly on a public street. The design of these complexes should incorporate interior access drives, walkways and courtyards to establish and define

common spaces and create strong linkages back to the local street system.

The density of individual developments within the Housing Mix 3 areas will generally fall within the lower end of the Medium Density Residential range of 16 to 40 units per acre defined in the Comprehensive Plan. The average net density for the District as a whole should be between 16 and 25 units per acre. An average net density of 20 units per acre is assumed for purposes of estimating the potential dwelling units in the Housing Mix 3 district.

d) Residential Housing Mix 4

The Housing Mix 4 District is primarily recommended adjacent to the mixed-use districts. While building types within this District might include rowhouse and townhouse development at relatively high densities, apartment and condominium buildings will be the predominant housing types. Dwelling units in this District should include both owner occupied and rental units.

Housing Types

- Rowhouses and townhouses at relatively high densities
- Apartment and condominium buildings
  - Relatively larger buildings than those in Housing Mix 3 Districts
  - Developments more likely to have underground parking
  - Limited side yards when buildings are located along standard streets
  - Buildings should be placed close to the street to create a defined "street wall"
  - Buildings may also front plazas or be grouped around central courtyards to create defined common space
  - Limited on-site open space which could include more formal entry plazas, patios, roof gardens and balconies
  - Buildings up to four stories in height

Density Range

- Individual developments: up to 40 units per acre
- District average: between 26 and 40 units per acre

Recommended Housing Mix 4 Districts include lands adjacent to the recommended Mixed-use Districts, with the exception of the small Neighborhood Mixed-use District at Lien and Thorson Roads. Relatively high-density development is recommended to help support the development of businesses that will help establish the mixed-use activity centers as engaging focal points. Apartment and condominium buildings will be the predominant housing type in this District. Buildings are recommended to be up to four stories in height, with relatively high lot coverage. Multi-unit developments should include a mix of unit sizes, including larger two and three-bedroom units suitable for families with children.

While relatively high density is encouraged, individual developments near the upper end of the 16 to 40 unit density range are recommended only as part of well-designed projects that are coordinated with the development of retail and service uses in the Mixed-Use Disricts that can support and provide amenity to a larger residential population. The site designs of development projects in the Mixed-use Districts and the adjacent Housing Mix 3 and Housing Mix 4 districts should create an engaging relationship between residential and non-residential activities and encourage pedestrian movement among the various uses and activities. The design quality of buildings and streetscape is critical to creating a unique destination for area residents and others.

The average net density of the District as a whole should be between 26 and 40 units per acre. This is a wide range, and the actual densities that can be supported here will partly

depend on detailed development plans for the Mixed-Use Districts areas as a whole. An average net density of 30 units per acre is assumed for purposes of estimating the potential dwelling units in the Housing Mix 4 district.

e) Estimated Dwelling Units and Population

If all of the lands in the Phase 1 planning area recommended for residential and mixed-use development were built out at the following densities, there would be approximately 9,700 dwelling units and 19,000 residents. This is a general estimate for planning purposes. The number of future dwelling units and residents will vary depending on the amount of land developed with residential uses and the actual density of individual projects. **Table 4** below shows estimated dwelling units and population for the Phase 1 planning area.

Table 4: Estimated Dwelling Units and Population - Phase 1 Planning Area

Recommended Land Use	Acres	Units Per Acre	Estimated Units	Estimated Population[2]
Housing Mix 1[1]	488.4	6	2,770	5,540
Housing Mix 2	197.2	12	2,366	4,732
Housing Mix 3	93.4	20	1,868	3,736
Housing Mix 4	53.9	30	1,617	3,234
Neighborhood Mixed-Use	22.1	20	442	884
Community Mixed-Use	30.8	20	616	1,232
Total	**885.8**	**10.9**	**9,679**	**19,358**

[1] Housing Mix 1 includes areas with existing residential development. The existing density of these areas were used in generating the estimated dwelling units.
[2] Based on two persons per unit.

2. Mixed-Use Districts

Three Mixed-use Districts are recommended in the Phase 1 planning area. A Community Mixed-use District is recommended for the intersection of CTH T and Reiner Road. This District is intended to be the largest and most intensively developed of the three Districts. A Neighborhood Mixed-use District is recommended at the intersection of Lien Road and Reiner Road. This District is comprised of the blocks at each quadrant of the intersection. A small Neighborhood Mixed-use District is recommended at the intersection of Lien Road and Thorson Road which could accommodate smaller mixed-used buildings at the intersection.

Purpose

The two largest mixed-use districts are planned to be engaging, urban destinations that provide retail goods and services for the planning area and to some extent people traveling through the planning area. It is recommended that these districts also include employment, civic/ institutional, residential and open spaces uses such as urban squares and formal greens. The Mixed-Use districts will be within walking, biking or driving distance for many residents within the planning area and will also be served by transit. It is intended that the Mixed-Use districts' diversity of uses and accessibility will make them hubs for social interaction within the planning area.

Market Demand

The initial demand for commercial development within these districts will be limited by existing and planned large retail developments in Madison and Sun Prairie within just a couple miles of the planning area. However, the market for the districts will increase as the residential and employment population in the planning area increases. A location along the planning area's primary roads is important because although commercial development in the district is intended to primarily serve residents in the planning area, some market support from surrounding areas and persons traveling through the planning area will increase the range of businesses that will be viable.

Boundaries are Flexible

The boundaries of the mixed-use districts are somewhat flexible and the market will ultimately determine the proportion of non-residential and residential uses. It is recommended that sufficient areas be reserved for non-residential uses although the market potential for residential uses may be more immediate. It is also recommended that additional commercial development locations not be created, so that the Mixed-use districts can become well-established as the focal points of the neighborhoods' activity and commerce. Providing additional commercial development locations along the primary arterial or collector roadways, for example, or elsewhere in the neighborhood, would divert potential customers from the Mixed-use districts and reduce their market potential.

Street Pattern

It is anticipated that the street pattern within the Mixed-Use Districts on the Land Use and Street Plan will be further defined through development. The Districts will likely contain public or private streets, alleys, pedestrian and bicycle paths and open spaces. Development within the districts should be pedestrian and bike friendly and connections should be made to the adjacent development areas to encourage users to walk or bike to the districts. Transit service should be incorporated into the districts, which will bring activity and customers to the district. Parking should be accommodated on streets, underneath buildings or within parking structures whenever possible.

Frontage Along Arterials

Reiner Road and CTH T bisects two of the recommended three mixed-use districts. The future traffic volumes on these arterial roadways will help support commercial uses, but will make pedestrian movement between parts of the districts more difficult. Development in the districts should therefore be oriented towards the interior streets that will likely be the functional entry points, but also the arterial roadways. Both the interior streets and arterials are recommended to have on-street parking to increase parking opportunities in close proximity to the districts, provide a more urban form and potentially slow traffic.

Overhead Electric Transmission Lines

Development within the mixed-use districts along Reiner Road will also be required to accommodate the overhead electric transmission lines. The lines run the entire length of Reiner Road and cross the roadway at multiple locations. The lines will have an impact on the aesthetic quality of the District, affecting views to and from future buildings. The lines will also impact the desired compact, urban character of the district as the easements associated with the lines limit buildings and larger landscaping. Site and building designs will need to address the potential negative impacts of the overhead lines.

a) Community Mixed-Use District

A Community Mixed-use District comprising approximately 30 acres is recommended for all four quadrants of the Reiner Road-CTH T intersection. The District is planned to be a high-density mix of residential, commercial, service, office, institutional, urban open space and civic uses in a compact, highly defined urban form. Mixed-use, multi-story buildings are envisioned in this District. These buildings should front on and be placed close to streets to create a compact development pattern that is attractive to pedestrians and creates a sense of place. High quality architectural design, building materials, landscaping and other urban amenities such as plazas and squares, decorative furniture, fountains and lighting will be required in this District. The District is planned to be the primary activity center for the entire planning area. The Community Mixed-Use District should be developed using transit-oriented development standards.

High traffic volumes are expected on Reiner Road in the future. County Trunk Highway T is also expected to experience increasing traffic volumes as the far-east side of Madison continues to develop. This increasing traffic will strengthen the viability of this area as a primary activity

center for the planning area. The District is well-positioned to benefit from the visibility and accessibility that Reiner Road and CTH T provide as well as the increasing population base in the planning area. Further, the southwest and southeast quadrants of the District enjoy excellent visibility from Interstate 94, the primary travel corridor between the Madison and Milwaukee metropolitan areas.

The two northern quadrants of the District are located adjacent to recommended Residential Districts and an Employment District along CTH T. The District is intended to serve the adjacent neighborhoods as well as the larger planning area. The neighborhoods will provide an important market area for the District's non-residential uses. The planned street network, land use pattern and block configuration are designed to maximize interaction between the district and adjacent lands, providing convenient access to and from the district by foot, bicycle, transit or motor vehicle. A significant amount of open space near the northeast quadrant of the district will provide an amenity for the area. The northwest quadrant includes a design that links a central green in the District to a formal park to the northwest and an attached greenway that extends north to the Village at Autumn Lake subdivision.

The two southern quadrants of the District are each approximately 12 acres. These areas abut the planned Employment District along Interstate Highway 94 and CTH T, where corporate and administrative offices, research and development facilities and similar uses are recommended. Strong land use, street, sidewalk and bicycle facility connections between the Community Mixed-use district and the Employment District are recommended. The Community Mixed-use District will provide numerous amenities for persons working in the Employment District. For example, Employment District workers and visitors will be able to dine, shop, watch a movie, or relax in an urban plaza or other open space.

Recommended Uses

Recommended commercial uses in this District include retail, service, financial, lodging, and entertainment. Civic uses such as a public library are also recommended. Development in this District should be compact and urban in character. This District is intended to be a focal point for the entire planning area, providing a wider range of goods, services and activities than are recommended in the Neighborhood Mixed-use District. In general, buildings in this District should be at least two stories tall. Big box retail development and strip commercial development are not recommended in this District. Mid-size retail buildings such as a grocery store, may be allowed, provided they are part of an integrated urban development project that is highly connected with other non-residential and residential uses. Such buildings should be lined with retail, service, office and residential uses in order to create a more attractive and pedestrian friendly environment. The Copps grocery store in the Middleton Hills neighborhood is one example of how a mid-size grocery store might be designed as part of a mixed-use development. Large surface parking lots are not recommended in this District.

It is recommended that relatively high-density residential uses be allowed within the District. Residential uses would add vibrancy to the District, especially in the evenings and on weekends when some non-residential uses are not in operation. Residential dwellings could be part of exclusively residential buildings or located within mixed-use buildings with ground floor retail, service, or office uses and upper floor residential uses. The Residential Housing Mix 4 residential dwelling unit types would be the most appropriate residential uses in this District. A net density of 20 units per acre is used to calculate the number of dwelling units that are possible in this area. The density may be amended slightly based on future detailed planning for the area.

Design Recommendations

High quality architectural and urban design is a critical component of mixed-use development. Design-oriented zoning standards and deed and plat restrictions are important tools in achieving a successful project. The design recommendations for the Community Mixed-use District are

similar to those in the Neighborhood Mixed-use District. However, the Community Mixed-Use District is intended to be larger in size and have a higher density and intensity than the Neighborhood Mixed-use District. Development in this District should meet the design recommendations for the Neighborhood Mixed-use District as well as the standards listed below:

- In general, when designing the Community Mixed-use District, the design emphasis should be on "place making"-creating an identity and focal point for the planning area. This can be achieved by high quality architectural designs, and building materials; building placements and street designs that create a strong sense of spatial enclosure, urban landscaping, comfortable public gathering spaces, and visually interesting, lively, pedestrian-oriented streets and pathways, among others.
- Creation of a strong "sense of place" in the early stages of the project is essential to the success of this District. Two sided streets and enclosed public spaces should be completed in the first phase of the development to establish a sense of place.
- The District should have a center of gravity. This may be a main street, fountain, plaza, village green, clock tower or some other place to which people are drawn.
- A strong emphasis should be placed on creating interesting, diverse community gathering places that provide areas for meeting, mingling, relaxing and conversing.
- The design of the District should enhance the gateway to Madison via Interstate 94. High quality architecture, strategic building placement and superior site design can help achieve this recommendation.
- Underground and structured parking is encouraged.

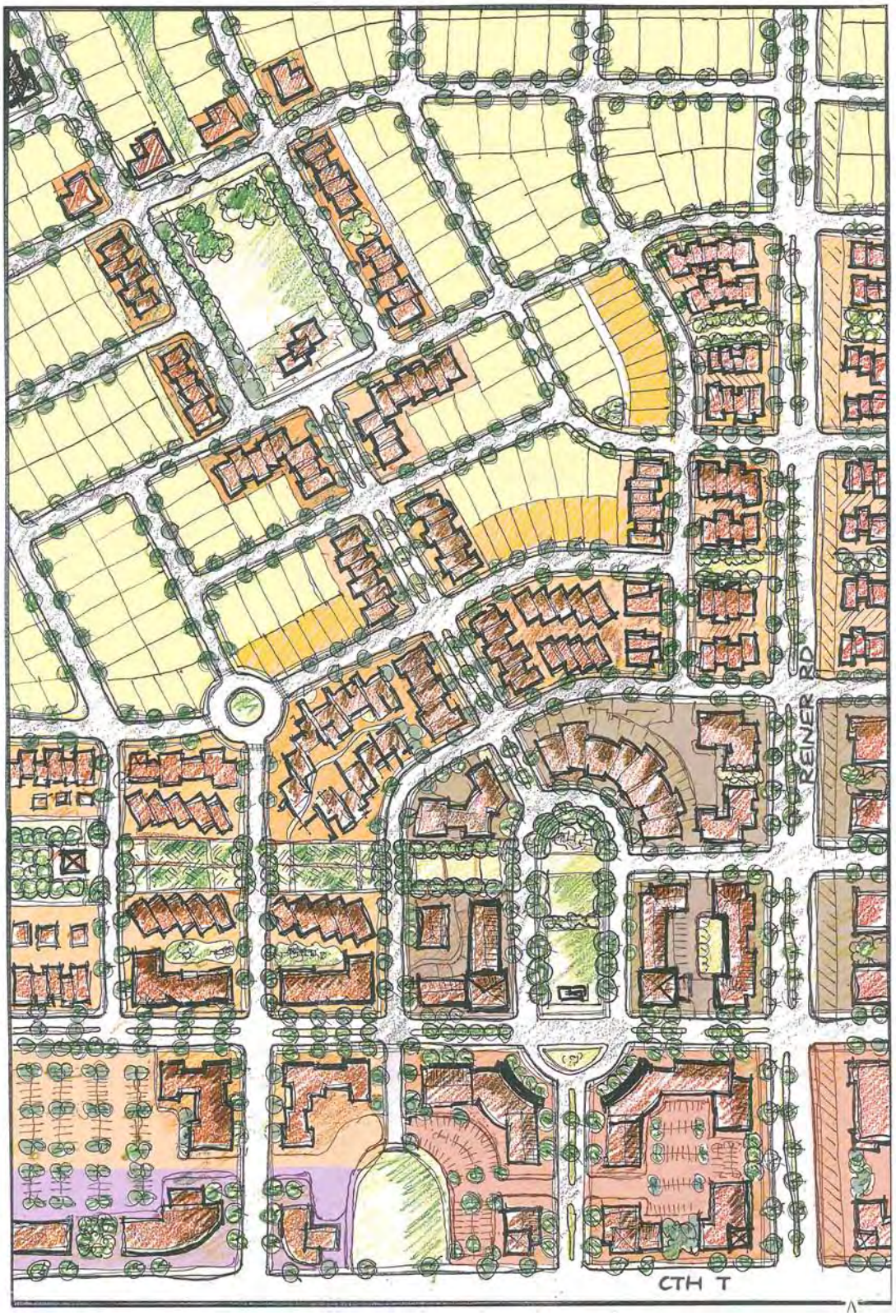
Figure 1: Reiner Road/CTH T Town Center Illustration shows a conceptual development concept for the northwest quadrant of the Community Mixed-use District. The concept shows potential street, block and lot patterns, building placement, streetscape treatments, and public and private greenspaces overlaid on the recommended Land Use and Street Plan. The concept illustrates how the area could be developed to create a compact, mixed-use development area. Buildings are placed close to the tree-lined streets to create a feeling of spatial enclosure, which fosters pedestrian activity and helps establish a unique sense of place. Linked public and private village greens and squares provide focal points for the area and provide terminal views down primary travel corridors in the Community Mixed-use District. These areas create attractive gathering spots that enhance the area's sense of place and provide active and passive recreation opportunities for the community and visitors. A green corridor links the central green with a small urban park. The green corridor could include community gardens, rain gardens, walkways, bicycle paths and attractive "front yards" for homes fronting it. Commercial uses on the ground floor of mixed-use buildings create visual interest and generate pedestrian activity.

A wide range of housing unit types are recommended in the Community Mixed-use District including single-family houses, duplexes, rowhouses, townhouses and multi-family dwellings. Figure 1: Reiner Road/CTH T Town Center Illustration illustrates the design principle of placing buildings close to the street to create a well-defined pedestrian realm and frame views to and from key destinations (such as parks and greens) within the District. Parking is placed underneath, behind or beside buildings.

b) Neighborhood Mixed-Use Districts

Neighborhood Mixed-use Districts are recommended in two locations in the planning area. The largest Neighborhood Mixed-use District is recommended where the future extension of Lien Road will intersect Reiner Road. The District includes all four quadrants of the intersection and comprises approximately 20 acres. This District is a major focal point for adjacent neighborhoods. It is envisioned that it will front on Reiner Road and Lien Road and will include a mix of multi-story buildings occupied by retail, office, service, residential and institutional uses.

Figure 1: Reiner Road/CTH T Town Center Illustration



A small Neighborhood Mixed-use District is recommended at the intersection of Lien Road and Thorson Road. The area extends along Lien Road along the first block west of Thorson Road. It is envisioned that this District could include small mixed-use buildings that are two to three stories in height. Recommended uses include restaurants, coffee shops, small retail shops,

personal and professional services and similar neighborhood serving uses. Auto oriented uses such as gas stations, are not recommended at this location. This small mixed-use area could also be developed with flex space buildings that could accommodate either residential or non-residential uses, depending on market conditions. Careful site design will be required to provide a smooth transition between this mixed-use area and adjacent residential areas.

Recommended Uses

Commercial development within the Neighborhood Mixed-use District is intended to accommodate relatively small-scale businesses primarily providing convenience goods and services to neighborhood residents. Anchor uses such as a small grocery store, or pharmacy may be desirable to support smaller commercial uses. Smaller uses might include a bakery, bank, bicycle shop, clothing store, coffee shop, dry cleaner, fitness center, florist, hardware store, salon, restaurant and video store.

Residential uses are encouraged as part of mixed-use developments that also include neighborhood-serving businesses, services or civic uses. Residential uses above storefronts on the ground floor of multi-story buildings are particularly encouraged at appropriate locations. The appropriateness of including residential uses in a specific development will depend to some extent on the location of the site and the opportunities to design a project with sufficient amenity to provide an engaging residential environment. Because the Neighborhood Mixed-use Districts have frontage on future four-lane arterial roadways, residential opportunities may be more attractive somewhat farther back from that street rather than right up to it. Residences could be located around a street-side or interior courtyard, for example. Buildings up to four stories in height are recommended, but developments with residential components will need to consider the potential need to provide usable open space or other on-site amenities. Development densities and intensities will need to be carefully considered in order to achieve a development pattern that successfully blends residential and non-residential uses.

It is recommended that relatively higher density residential uses be included within the District. Residential uses would add vibrancy to the District, especially in the evenings and on weekends when some non-residential uses are not in operation. Residential dwellings could be part of exclusively residential buildings or located within mixed-use buildings with ground floor retail, service, or office uses and upper floor residential uses. The Residential Housing Mix 4 District dwelling unit types would be the most appropriate residential uses. A net density of 20 dwelling units per acre is being used to estimate the number of dwelling units in this District. This number could vary based on detailed planning for the area.

Design Recommendations

High quality design is a very important element of successful mixed-use development. A combination of "design-oriented" or form-based" zoning standards and deed and plat restrictions will be necessary to successfully implement high quality mixed-use projects. The Neighborhood Mixed-use Districts are planned to become focal points for neighborhood activities and neighborhood-oriented commerce. It is recommended that the Districts be developed as mixed-use, pedestrian-friendly nodes with an "urban" character and closely integrated with the higher density residential development both on the site and adjacent properties. There should be a very strong pedestrian linkage between the Districts and adjacent areas. The following design elements are recommended as guidelines for future development in the Neighborhood Mixed-use Districts and should be reflected as appropriate in individual project proposals:

- An emphasis on creating integrated neighborhood business and activity centers, as distinct from an aggregation of essentially separate business sites.
- Multi-story buildings are strongly recommended, especially at corner sites. Buildings up to three stories in height may be appropriate. In general, buildings should not be less than two stories in height.

- Building massing should be used to create a definable public space.
- High quality building materials, such as brick or stone, are recommended.
- Building design and facade characteristics similar to those that are commonly found along the Monroe Street business district and in other urban mixed-use areas such as Cannery Square in downtown Sun Prairie are examples of the type of design character that is envisioned for this District.
- Mixed-use development is encouraged, such as office or residential uses above retail uses.
- Buildings are located close to the sidewalk, with parking lots to the rear or the interior of sites rather than in front of buildings.
- On-street parking is recommended.
- Small plazas or courtyards as gathering places for visitors and employees.
- Minimal "gaps" in the street-level retail and business frontage.
- High levels of pedestrian amenity in public and private areas, including street trees and other landscaping, walkways connecting public sidewalks and parking areas to building entrances or activity areas, benches and other street furniture, and special lighting.
- High levels of bicycle amenity in public and private areas, including linkages to the neighborhood and safe access to convenient bicycle parking located near building entrances and activity areas.
- Neighborhood Mixed-use Districts should be designed to include transit-oriented development standards, such as those described in the City of Madison Comprehensive Plan.

c) Potential Mixed-Use Districts

Several areas are shown as Potential Mixed-Use development areas on the Land Use and Street Plan in addition to having an underlying recommended land use. These are indicated as Potential Mixed-Use development areas because they are located at prominent intersections or locations within the planning area where mixed-use development might be feasible. Having additional mixed use development areas within the planning area would be desireable as it would increase the convenience for nearby residents. These areas will be evaluated further as the planning area develops. The land use and design recommendations for the Neighborhood Mixed-Use District should be used in these areas.

3. Employment District

An Employment District comprising approximately 90 acres is recommended for an area adjacent to CTH T and Interstate 94. This district is intended to provide high-quality employment opportunities for the planning area and the region. Recommended land uses include corporate and business offices, research facilities and laboratories, hospitals, medical clinics and similar uses. Complementary uses that primarily serve District employees and users are also recommended. These uses include business services, conference centers, childcare, restaurants and lodging facilities. The District should provide a variety of flexible sites for small, local or start-up businesses, as well as sites for large national or regional companies.

In general, the Employment District should be designed as a compact, integrated district rather than a string of low-density suburban-style developments, although some users may require relatively large sites. Design and development standards are recommended for this District. Buildings up to 10 stories tall are recommended along Interstate 94 south of CTH T. Buildings up to 6 stories tall are recommended north of CTH T where the district abuts recommended residential development.

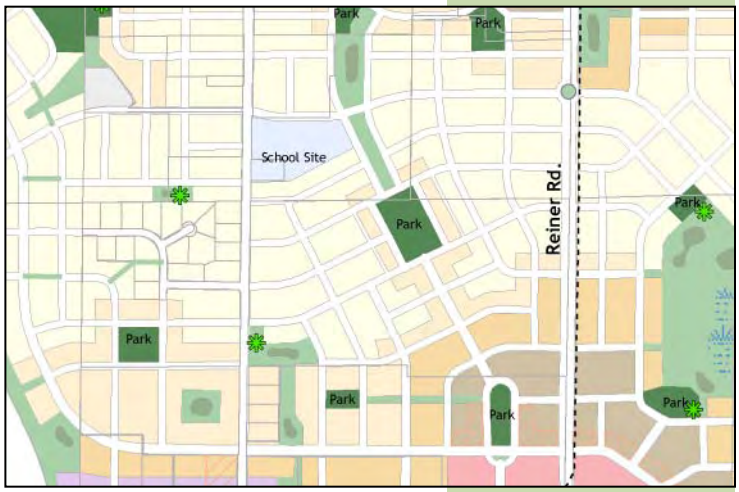
The exact block and street pattern within the Employment District is intended to be somewhat flexible in order to accommodate the needs of businesses that may require sites that are larger than those reflected on the Land Use and Transportation Plan map. If larger sites are needed, public streets should be provided. Private streets are not recommended.

Interstate 94 is a gateway to Madison from the east. Developments visible from the Interstate should have high quality site and building design that creates an attractive appearance on all sides of the development. Adequate site landscaping should be provided on all sides. Parking areas should not dominate the view from any vantage point.

Strong street, path and sidewalk networks are recommended to provide circulation within the district and connections to surrounding transportation corridors and adjacent land use districts. Connections should be provided between the district and the adjacent Community Mixed-use District and residential areas. The Employment District will provide an important retail, service and housing market for Community Mixed-use District and people need to have safe, convenient and engaging travel routes between the Districts. The Employment District should be designed to facilitate transit service.

4. Parks and Open Space

The *Plan* seeks to preserve the significant natural features including streams, drainageways, wetlands, steep slopes and wooded areas. Where practical, the *Plan* recommends connecting these features into an interconnected system of open space corridors. These natural areas are complemented by a system of well-placed parks that will provide convenient access to a variety of recreational opportunities and add significant aesthetic character to the planning area. The open spaces and parks are also recommended to provide the opportunity for local food production through the creation of community gardens. **See Map 7 Parks and Open Space Plan**



Map 7: Parks and Open Space Plan (excerpt)

a) Open Space Corridors

The open space corridors are intended provide environmental benefits such as protection of the significant natural features, opportunities for naturalized stormwater management and preservation of wildlife habitat areas. The corridors will also provide aesthetic value by separating planned development areas to provide a more natural setting for what will become an urban area. Most of the open space corridors are associated with the perennial and intermittent stream segments associated with Door Creek and intermittent stream segments associated with Starkweather Creek. It is recommended that most of these stream segments be preserved as open drainageways and remain in a relatively natural state. The stream segments that have been designated as navigable waterways by the Wisconsin DNR are required to remain in a relatively natural state. There are also wetlands along many of the stream segments, which likely require preservation under DNR regulations. Other corridors correspond with the steeper slopes and wooded areas within the planning area.

The open space corridors vary in width depending on the resource they are intended to preserve. In all cases, it is recommended that a natural corridor of at least 75 feet be provided. The natural corridor could be a part of private lots if restrictions are included that limit disturbance of the open space areas. It is anticipated that the ultimate width and ownership of these corridors will be determined through more detailed development planning. It is recommended that planned open space corridors that currently do not contain significant vegetation be enhanced with plantings such as native grasses, shrubs and trees.

b) Door Creek Corridors

Corridors associated with Door Creek are recommended for open preservation. Segments of Door Creek that drain from the east and west converge in the Seminary Springs area along

Gaston Road. The Seminary Springs area also includes a large area of wetlands, which are bordered by other valley lowlands and uplands that include a mix of natural land and active agricultural land. The uplands include two very definable glacial drumlins on either side of Gaston Road. Preservation of these corridors are primarily intended to protect water quality in Door Creek and its associated wetlands, but also preserve the drumlins, woods and open fields along this segment of the Door Creek valley, which provide an irreplaceable natural setting for the creek and its wetlands. The uplands are important environmental features in their own right and are critical for maintaining wildlife habitat and the complex ecological relationships that exist within a larger natural area.

The corridors will become an integral part of a planned regional open space corridor along Koshkonong Creek and Door Creek. The proposed corridors cover a portion of the Dane County Parks and Open Space Plan's (POSP) Koshkonong Creek Natural Resource Area (NRA) and is adjacent to the Blooming Grove Drumlins NRA. NRAs are larger corridors containing valuable natural resources recommended for preservation. Preservation within these areas is accomplished by acquiring land or conservation easements from willing sellers, and often occurs in cooperation with other units of government and organizations.

The Koshkonong Creek NRA is primarily associated with a very large area of wetlands and floodplain in the Town of Sun Prairie that is intended to facilitate wetland restoration and provide flood mitigation. The POSP also envisions the NRA as part of a larger greenbelt corridor between Madison, Sun Prairie and Cottage Grove. Protection of these lands is expected to include working farms that exist in the area, which is also recommended in the City of Madison Comprehensive Plan. The POSP also recommends the development of recreational activities such as shore fishing and trails. To date, the County has not completed any projects in this recently established NRA, but discussions with County Parks Division staff have indicated that their highest priority would be the purchase of lands or conservation easements to facilitate wetland restoration and provide flood mitigation.

c) Parks

Several City of Madison parks are recommended at strategic locations within the planning area. The park distribution generally reflects the distribution of the projected residential population when the neighborhood is fully developed, with a large area-wide park centrally located within the planning area.

The recommended parks are located where they not only provide convenient recreational opportunities to the surrounding neighborhoods, but where they also enhance the visual character of the neighborhoods. The proposed park sites all have significant public street frontage, and will have high visibility to persons traveling along the neighborhood's roadways. Some of the park sites are designed to provide attractive "terminal views" at the end of local street segments. These relationships are considered important, and are among the many small attributes that collectively will make the planning area an interesting and enjoyable place.

Since the parks are located at prominent locations, it is recommended that a mix of tree varieties, including large canopy trees be planted in them. Full-canopy trees can be shown to full advantage in the open spaces of public parklands and can help create a dramatic setting for other park activities.

Area Park

An approximately 20-acre area park is recommended along the south side of the proposed Lien Road extension east of Reiner Road. Area-wide parks are intended to serve lands within about a one-half mile radius, and therefore, contain many recreational facilities and amenities to serve a relatively large residential population. Future detailed park development planning will be needed to determine the exact park configuration and facilities, but conceptually,

the area-wide park might contain open playfields that can be adapted for soccer, softball, ultimate Frisbee and similar sports; tennis courts, basketball courts; a picnic shelter and a playground. The need for a parking area within the park will be partly dependent on the specific facilities developed and amount of on-street parking available. Since the park is proposed adjacent to a recommended school site, there may be an opportunity for each use to share parking. As noted above, the proposed park site has significant public street frontage.

Neighborhood Parks

A number of neighborhood and pocket parks are recommended in the planning area. These parks range in size from approximately 1 acre to 6 acres and are recommended to serve the recreational needs of the neighborhoods that are more distant from the proposed area-wide park. These parks provide facilities for active recreation, such as a playground, basketball court, tennis court and open field space, although the smallest parks would function as tot lots or formal urban squares, such as those found in Savannah, Georgia. Some of these parks are intended to provide amenity and more passive enjoyment. These parks could contain picnic areas, benches and naturalized areas.

Parkland Dedication

Residential developers are required to dedicate land or pay a fee in lieu of dedication to accommodate the recreational needs of a development's residents. This dedication is used to implement community, area and neighborhood parks. It is anticipated that some of the recommended parks will have to increase in size to correspond with the amount of dedication that will be received from development and to provide adequate space for desired recreation facilities such as field sports. It is also possible that the eventual park locations will differ from the locations illustrated in the *Plan*. Adjustments to the recommended parks should, however, maintain a balance of parks geared towards field sports that tend to be larger and parks geared for more passive recreation and neighborhood amenity that can be more effective when they are smaller in size.

Park Street Frontage

The parks recommended in the planning area have a substantial amount of frontage on public streets. There are multiple advantages to having streets front the parks, including increased visibility for the park and convenient access for the neighborhood. This configuration also creates potentially higher costs to the City, however, since fronting properties are generally responsible for street construction costs. If these costs become a potentially limiting factor in the ability to implement the recommended parks, it is recommended that alternative approaches to paying for street construction adjacent to public parks be explored, rather than modifying the park configurations to reduce street frontage.

Park Maintenance

The *Plan* primarily utilizes parks and open space to serve as the organizing feature for the neighborhoods within the planning area. This results in numerous parks, including smaller parks that are more costly to maintain on a per acre basis compared to larger parks. While it is recommended that arrangements for shared public and private park maintenance be pursued, the City will have to appropriately budget funds to ensure on-going maintenance.

d) Community Gardens

The Comprehensive Plan recommends that plans for future neighborhoods include recommended locations for community gardens. Community gardens are organized places where residents can rent small garden plots to grow produce for consumption; but they also provide a place where people can meet their neighbors and enjoy shared interests. Community gardens have been established at various locations in Madison, but one problem community gardens face is finding suitable locations that can be maintained over time, rather than only temporarily until the land is needed for some other activity.

At least one or two acres of suitable land with access to a water supply is considered desirable for establishing a community garden. Gardens should also be located where potential undesirable impacts on adjacent activities will be minimal. While community gardens on private land are encouraged, and can be provided as part of larger subdivisions or multi-family developments, community gardens can also be located on public land. The current feeling by City staff is that the gardens work best when located within or adjacent to City parks that also have other activities, rather than on isolated sites. Park locations typically provide greater visibility, playgrounds and playfields that non-gardening family members can use while others are working in the garden, opportunities for shared parking, and often, access to a water supply. It is recommended that the larger City parks in the planning area be considered for community gardens. The *Plan* identifies several potential locations for community gardens. These locations are conceptual and it is possible that community gardens may be located at other locations within the planning area. Nevertheless, the proposed locations provide a starting point for thinking about where community gardens might be located in the planning area. The potential for locating a community garden in or near a park should be evaluated as part of more detailed park planning.

5. Civic and Institutional Uses

Given the size of the planning area, it is expected that numerous civic and institutional uses will be developed. In general, it is recommended that these uses locate within or near the Mixed-use Districts in proximity to the highest population densities and transit opportunities.

a) Potential Lien Road Elementary/Middle School Site

The planning area is entirely within the Sun Prairie Area School District. Preparation of the *Plan* included discussions with School District officials as they considered where and when additional school facilities might be needed in the District. The planning area currently generates relatively few students. However, Sun Prairie Area School District planners believe projections for future residential development indicate that the planning area will eventually support at least one elementary school and potentially a middle school. These schools would be in addition to the school site the School District has identified within the Village at Autumn Lake subdivision. The need for a future high school site in the planning area is considered unlikely because the planning area is at the southwestern edge of the School District and these facilities typically have a more central location.

A potential site for a future school is recommended along Lien Road adjacent to the proposed large area-wide park. The recommended location is at relatively central location within the planning area without being too near the School District's boundaries at Interstate 39-90-94 and Interstate 94. It is within a reasonable walking or biking distance for many residents and it is located adjacent to the proposed north-south regional bike path. Convenient vehicular access to the site is provided via Lien Road and the extension of Milwaukee Street. Neighborhood schools are important community assets and in addition to their educational activities, often become a focal point for a variety of other neighborhood meetings and events. The proposed school site's central location within a proposed residential area is well-suited to this enhanced community role.

The proposed Lien Road school site illustrated on the Land Use and Street Plan is about nine acres in size, and the site is designed to include a school building, parking areas, and a small on-site play area. An eight-acre site is appropriate for an elementary school. A middle school would require about 12 acres and a combined elementary-middle school site would require about 18 acres. The school site shown on the Land Use and Street Plan could be expanded by removing one or both of the short east-west residential streets south of the school site and west of Milwaukee Street extended. These modifications would not be detrimental to the overall land use and street pattern.

A school location next to the area-wide park would allow the school and the park to share some types of recreational facilities. It may be possible for school and park users to share some of the parking facilities as well, which would decrease parking needs within the park and on nearby residential streets. The opportunity to develop shared facilities reduces the size of site needed for the school, decreases land acquisition costs for the School District, and results in a more compact development pattern. Multi-story school buildings are desired in the planning area as a means of creating more pedestrian scale neighborhoods, with building traditional styles as opposed to single story suburban type buildings.

b) Potential Felland Road Elementary School Site

The *Plan* identifies a second potential school site along the east side of Felland Road across from the Bridle Downs subdivision. This location is centrally located to serve the planned neighborhoods in the area. Further, the site has excellent access to the planning area's transportation system and is very close to proposed parks and open space.

Sun Prairie Area School District staff has reviewed the *Plan* and the potential school sites, and generally support the concept of schools at these locations. These locations are conceptual and their locations are subject to change over time if the City and School District deem it desirable to do so. The City of Madison will continue to work cooperatively with the School District to secure well-located school sites in the planning area as it develops.

c) Public Library

It is likely that a public library will be developed on the northeast side of Madison at some point. It is recommended that the planning area be considered as a potential location. Locating a library within one of the Mixed-Use Districts would be logical since it would be near a large population, would be located along a major travel corridor and would have the most frequent transit service.

d) Farmers' Markets

It is recommended that one or more farmers' markets be established in the planning area. Potential locations for a farmers' market include the recommended Mixed-use Districts or the Employment District. These areas would provide convenient access and high visibility. Developers are encouraged to work with the City to identify potential sites.

6. Special Planning Considerations

Parts of the planning area are located in close proximity to Interstate Highways and quarries which bring about special planning considerations for development. These special situations are described below.

a) Noise Mitigation Requirements Adjacent to the Interstate Highway

Residential developments on lands adjacent to the Interstate Highway will be required to comply with Wisconsin Department of Transportation TRANS 405 regulations regarding mitigation of traffic noise, which address noise levels outside of buildings as well as inside. Similar requirements apply to outdoor recreational uses. For other non-residential developments, only noise levels inside of buildings needs to be reduced below prescribed levels. Before any new residential or recreational development adjacent to an Interstate Highway can be approved, the developer must demonstrate that sound levels at the site are within permissible levels, or that adequate sound attenuation measures will be incorporated to reduce sound levels to permissible levels. This is reviewed as part of the development approval process.

The elevation is higher than the Interstate along most of the proposed residential frontages along the highway. The lands near the Bridle Downs subdivision are somewhat lower and may require sound mitigation measures. Therefore, construction of a berm along the

edge of the highway right-of-way, or other approved attenuation measures, will be needed before residential development can occur. The need for noise attenuation is not viewed as something that should preclude consideration of residential development adjacent to the Interstate. Similar berms have been constructed in several newer Madison neighborhoods and have been successful in meeting the mitigation requirement and creating a quieter environment suitable for residential development. The buffer zone along the Interstate shown on the Land Use and Street Plan map conceptually illustrates the need for sound attenuation, but it is not a precise estimate of the area required to construct a berm or other attenuation measures. Property owners and potential developers have the responsibility to determine how sound attenuation regulations may affect the plans or costs to develop specific properties, and to take the measures needed to attenuate the noise or otherwise comply with the regulations.

b) Residential Development Adjacent to Quarries

It is anticipated that operations at the Madison Crushing and Excavating facility on Reiner Road will continue for many years. Dane County regulations include some restrictions on the operations, but there are still impacts on nearby areas. Although blasting is infrequent, it can create vibrations in areas near the quarry. Rock crushing also takes place at the site and many dump trucks travel through the planning area hauling material from the site.

Development on adjacent or surrounding lands will have to recognize that there will be noise and vibration from operations at the quarries. As has been done in the past, it is recommended that potential owners of property near the quarry be required to sign a legal document acknowledging the presence and potential impacts of the quarry.

E. Transportation

The following recommendations are intended to achieve goal of capturing 25% of all trips made by persons living in the planning area by walking, bicycling or transit, the following initiatives are recommended. They will enhance the use of non-automobile transportation modes, such as public transit, bicycling and walking. Ways to reduce transportation demand, by utilizing demand management measures, are also included.

This goal will be accomplished through the implementation of numerous land use and transportation system strategies and approaches - including transit-oriented development (TOD), traditional neighborhood development, mixed-use development, high-quality public transit improvements (including early public transit service, as the neighborhood begins to develop), transportation demand management strategies and programs, the development of a walkable neighborhood environment (with high-quality pedestrian facilities), bicycle transportation facilities, neighborhood-friendly street design, and other transportation demand management practices.

1. Interstate Highway 94

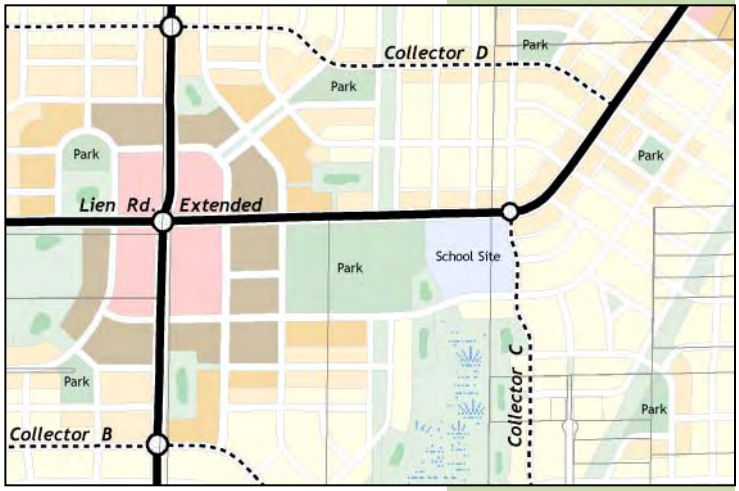
The planned expansion of Interstate 94 from four lanes to six lanes and the lengthening of the Badger Interchange ramps will impact properties in the planning area. Private property will be acquired to accommodate road widening, grading and stormwater. Given the size of the properties along the Interstate, however, the amount of land that will be acquired should not dramatically affect the properties.

Currently, there is not direct access to Interstate Highway 94 from the planning area. The Interstate system can be accessed via interchanges within several miles. Providing direct access to Interstate 94 in the vicinity of Milwaukee Street has been suggested to meet future regional transportation needs and reduce travel time from the planning area to the regional transportation network. The 1998 Sprecher Neighborhood Development Plan discusses exploration of a possible interchange at the extension of Milwaukee Street. The plans for Interstate 94 reconstruction and expansion include an Interstate bridge over Milwaukee Street, but not an interchange at this time.

Providing additional access to the Interstate system requires approval from the Federal Highway Administration, following a formal feasibility study. An Interchange Justification Report/Environmental Assessment for a potential new access point is a major undertaking that needs to address specific justification criteria that have been established for the evaluation. An Interchange Justification Study also requires a local government sponsor such as the City of Madison.

2. Arterial and Collector Roadways

Existing or planned arterial roadways within the planning area include Reiner Road, Lien Road, CTH T and CTH TT. These roadways are intended to carry the highest traffic volumes and efficiently move travelers through and beyond the neighborhood. Felland Road, Gaston Road, Thorson Road, the extension of Milwaukee Street, the extension of City View Drive and an east-west street that will developed will serve as collector roads. These roadways will primarily carry traffic generated from within the planning area. The recommended typical cross-section for the arterial and collector roadways within the planning area is described below. The cross-section for these roadways may vary at intersections and in areas with special circumstances. See **Table 5** and **Map 8 Transportation Plan-Roadways**.



Map 8: Transportation Plan-Roadways (excerpt)

Table 5: Typical Arterial and Collector Cross-Sections

Roadway (Cross-section)	Appproximate Right-of-Way	Lanes	On-Street Parking	Driveways	Transit Priority Corridor
Reiner (Higher Density)	130'	4	Yes	Limited	Yes
Reiner (Lower Density)	120'	4	No	Limited	Yes
Lien (Higher Density)	120'	4	Yes	Limited	Yes
Lien (Lower Density)	108'	4	No	Limited	Yes
CTH T/TT (Split Boulevard)	210'	6	Yes	Limited	Yes
CTH T/TT (Non-Split Boulevard)	TBD	4	Yes	Limited	Yes
Felland	80'	2	Yes	Yes	No
Milwaukee extension	80'	2	Yes	Yes	No
Thorson	70'	2	Yes	Yes	No
Gaston	70'	2	Yes	Yes	No
Collectors A, B, C and D	70'	2	Yes	Yes	No

*Features within Transit Priority Corridors are described on page XXX.

Right-of-way Expansions

Where the right-of-way for existing roadways will be expanded, the centerline of the roadway may have to shift slightly to avoid existing development and natural features.

Roadways with Medians

The arterials within the planning area are recommended to have a median. The collectors and other prominent roadways may have medians especially at key intersections. A median provides separation for opposing directions of traffic, space for a left turn lane, a safe place for

pedestrians crossing the street, landscaping space and could contain rain gardens of similar features that provide localized stormwater infiltration.

Driveway Access and Building Orientation on Arterials

Driveway access for new development along the arterials should be limited. New development areas are designed to have lots take access from interior local streets or off of an alley rather than directly from the arterial road. Although it is recommended that driveway access be limited, land uses adjacent to the arterials should maintain at least a secondary orientation to the arterial roadway. This includes having buildings face both streets and have walkways and entryways on both streets where possible.

Transit Priority Corridors

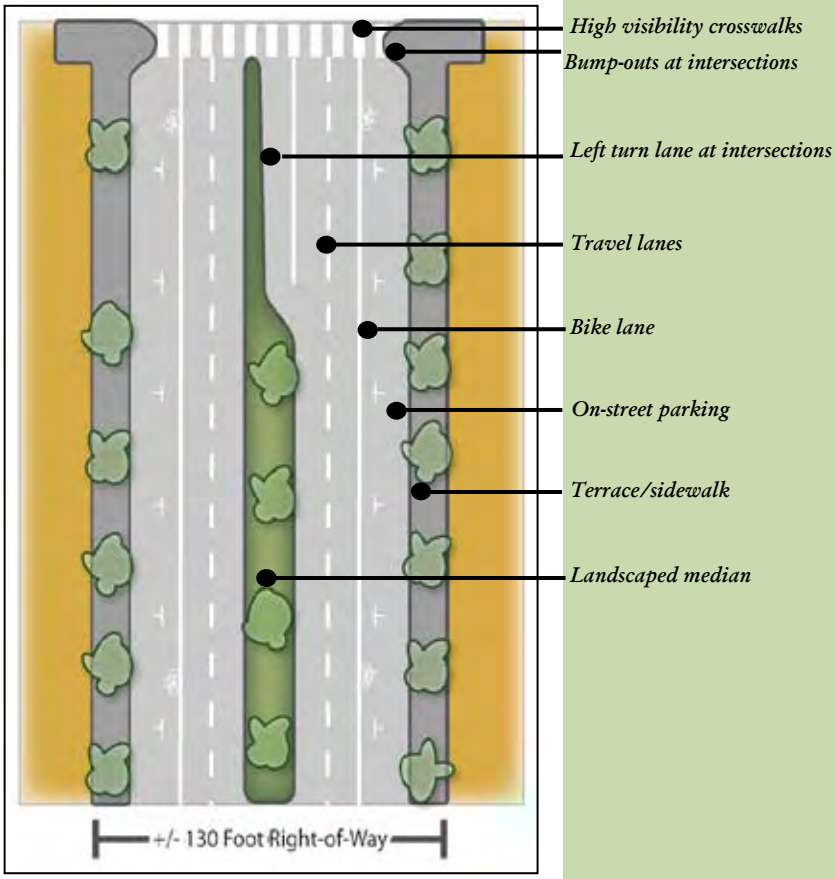
The three arterials within the planning area, Reiner Road, CTH T/TT and Lien Road, are designated as transit priority corridors. These corridors are the most appropriate for consideration of transit as they are planned regional arterials and travel along the higher density residential areas, the two mixed-use districts and the employment area. These corridors are also adjacent or near potential commuter rail stations. Transit Priority Corridors are further described in the Transit section below.

a) Reiner Road

Reiner Road is the only north-south arterial street within the planning area and the only roadway that both crosses Interstate 94 and continues northward beyond the planning area. Expansion of the right-of-way and pavement section will have to be coordinated with the overhead power line and existing development located along the roadway. It is likely that the road will be expanded away from the power line, given the cost of relocating the line's support poles. This may result in minor shifts in the road since the line shifts from one side of the road to the other several times as it passes through the planning area.

Two cross-sections are recommended for Reiner Road to address the different types of land uses recommended along the corridor. It is recommended that segments adjacent to areas recommended for mixed-use and higher density development have on-street parking. On-street parking is not recommended along lower density areas.

Figure 2: Higher Density Cross-Section



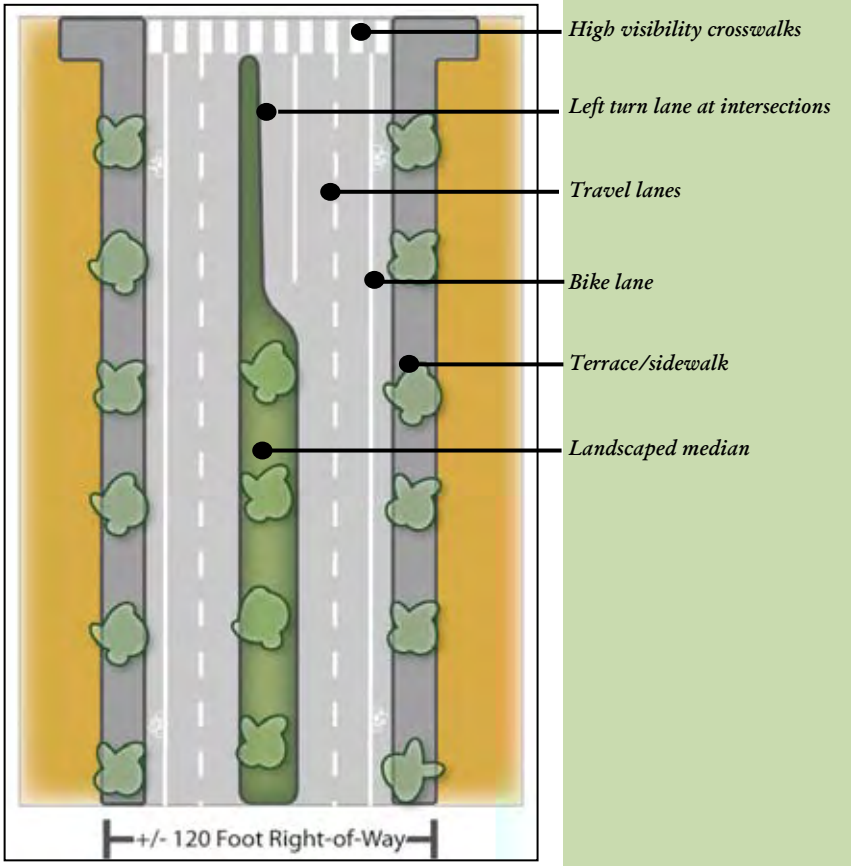
b) Lien Road

Lien Road provides a connection to the East Towne retail area and the East Washington Avenue corridor further to the west. It is currently improved as a two-lane rural roadway near its intersection with Felland Road. West of the Felland Road intersection, it was recently reconstructed to a two-lane urban section with a sidewalk on the north side of the road and marked bicycle lanes. This reconstruction is part of an eventual expansion to

four lanes.

It is recommended that Lien Road be eventually extended to Thorson Road from its current terminus at Felland Road and function as an arterial roadway. There are several homes located along Felland Road that will be affected by the near term extension of Lien Road. Lien Road will shift northward slightly at the Felland Road intersection as the Village at Autumn Lake subdivision provided additional right-of-way dedication. Despite the additional dedication, one home, and potentially two homes, will have to be relocated. Two cross-sections are recommended for Lien Road to address the different types of land uses recommended along the corridor. It is recommended that segments adjacent to areas recommended for mixed-use development and higher density residential and the Area park have on-street parking. On-street parking is not recommended along lower density areas.

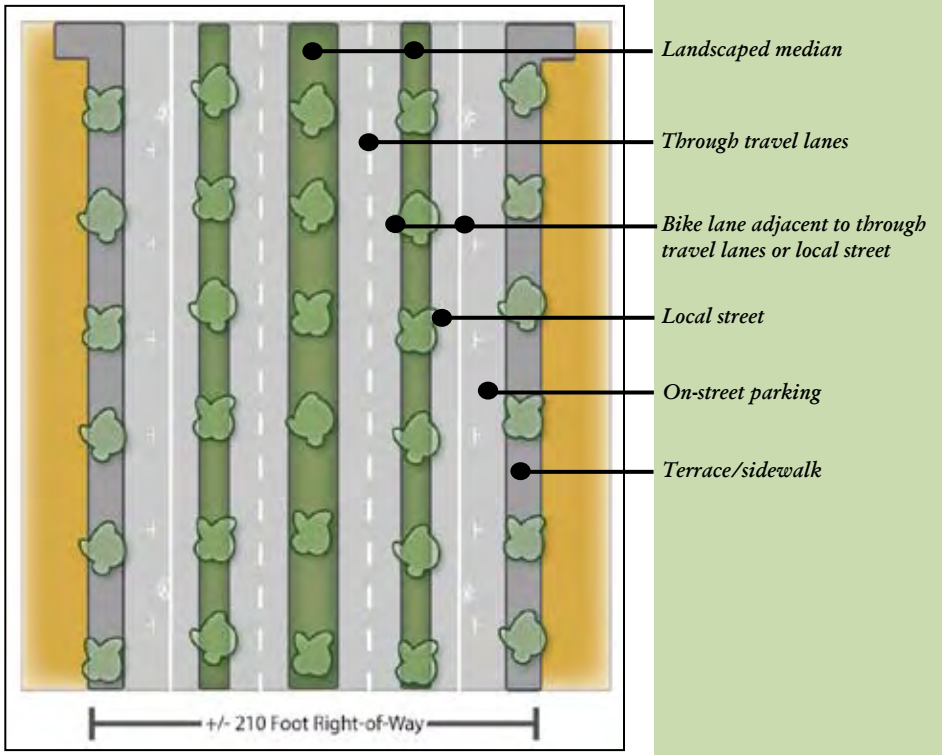
Figure 3: Lower Density Cross-Section



c) County Trunk Highway T/TT (east-west segment)

CTH T and CTH TT parallel Interstate 94 through the southern limits of the planning area and then continue along northeasterly routes towards CTH N, functioning as the primary east-west travel corridor through the planning area. The roads provide indirect access to Interstate Highway 94 via CTH N and to Interstate Highway 39-90-94 via USH 30 and USH 51. The right-of-way for the portions of CTH T and CTH TT that parallel Interstate 94 is over 200 feet in width although they are currently two lane roads. The wide right-of-way was obtained when the roadway served as U.S. Highway 30 prior to development of Interstate Highway 94.

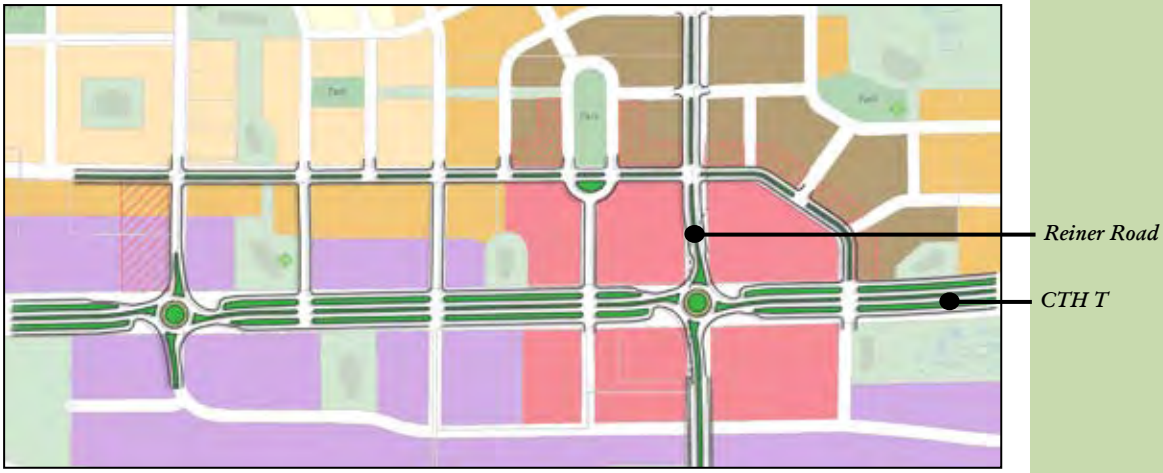
Figure 4: Split Boulevard Cross-Section



Split Boulevard Cross-Section

It is recommended that a cross-section referred to as a "split boulevard" be considered for CTH T since the roadway has a very wide right-of-way. This cross-section is similar to a four-lane divided roadway in the center. On either side of the four-lane divided roadway there is a median and a local street. The primary advantage to this cross-section is it serves as both a thoroughfare for traffic moving through the area and as a local street with on-street parking and development fronting the street. Traffic circulation with a split-boulevard is much different than with a four-lane divided roadway and would have to be evaluated in greater detail.

Figure 5: Split Boulevard Illustration



Non-Split Boulevard Cross-Section

If the split boulevard cross-section is not preferred, CTH T/TT is recommended to be a four-lane divided roadway with on-street parking adjacent to areas recommended for employment and higher density development. On-street parking is not recommended along lower density areas or areas not recommended for intensive development, such as adjacent to the Door Creek corridor.

If the eventual cross-section for CTH T/TT does not occupy the roadway's approximately 200-foot wide right-of-way, development would be set back from the roadway and the remaining right-of-way could be reserved for future transportation functions.

d) CTH T (northeasterly segment)

Planning for the Phase 2 planning area will evaluate whether this segment of CTH T should be shifted to the east from the current alignment. A shift from the current alignment would provide a larger separation between where CTH T and CTH T/CTH TT meet and the intersection of Gaston Road and CTH T/TT, thereby providing safer traffic movements. Additionally, expansion of the existing segment of CTH T might produce conflicts with the existing development and natural features adjacent to the roadway. The cross-section for this segment of CTH T will also be determined as part of planning for the Phase 2 planning area.

e) Felland Road

Felland Road will be converted from a 2-lane rural cross-section to a 2-lane urban cross-section

f) Milwaukee Street Extension

Milwaukee Street is planned to be extended to the north from its current location in the Sprecher Neighborhood. The roadway is planned to cross underneath Interstate 94 and continue northward into the planning area. This street will provide an additional crossing

of the Interstate and will help distribute traffic in the area that would otherwise be limited to the Reiner Road/Sprecher Road corridor. As part of the Interstate 94 reconstruction and expansion project, an Interstate bridge over the future Milwaukee Street extension will be constructed. The actual construction of Milwaukee Street under the Interstate will likely occur later as it is dependent on coordination with affected property owners and the pace of development in the area.

g) Gaston Road
It is recommended that the northern end of Gaston Road be realigned to meet CTH T/TT at closer to a right angle to provide safer traffic movements.

h) Thorson Road
Thorson Road will be converted from a 2-lane rural cross-section to a 2-lane urban cross-section.

i) Collector A
Collector A provides an additional continuous north-south route near Interstate 39-90-94. It connects with the planned extension of City View Drive in the Felland Neighborhood.

j) Collector B
Collector B provides an additional continuous east-west route through the planning area. The planned route occupies a portion of the existing Forest Oaks Drive.

k) Collector C
Collector C provides an additional continuous north-south route through the planning area and connects the Milwaukee Street Extension (on the south) with Lien Road (on the north).

k) Collector D
Collector D provides an additional east-west route through the planning area to the north of Lien Road. It connects with a planned collector in the Village at Autumn Lake subdivision to the west of the planning area.

3. Local Streets

The proposed street layout is a "modified grid" pattern that includes relatively small blocks, provides a high degree of connectivity within the neighborhood and provides multiple routes to most destinations. The street pattern is designed to accommodate factors such as existing topography, property ownerships and solar orientation while still providing an engaging street pattern.

Topography

Areas with steep slopes are avoided and the street pattern seeks to minimize the amount of grading that will be required to accommodate development. Often, streets run up and down the more moderate slopes so that streets and development can follow the natural contour of the land. This arrangement minimizes the use of retaining walls and steeper slopes in backyards and provides positive drainage for sanitary and storm sewers. In areas of steep slopes, development is limited to the lower elevations and the sloped areas are recommended for open space.

Property Boundaries

The street layout largely respects existing property boundaries. The *Plan* minimizes any odd shaped development areas along property lines or where roads intersect property lines. In some cases, however, the most effective street pattern does leave small areas of a property that would be difficult to develop efficiently as a separate parcel. In these cases, property owners are encouraged to exchange land with adjacent owners to create parcels more suitable for

development.

Solar Orientation

The street pattern also seeks to maximize solar orientation through both the street pattern and potential building placement and design. The City's Land Subdivision Regulations (Chapter 16.23) include standards for maximizing solar orientation of streets, blocks and lots.

Typical Local Streets

Most local streets will have a right-of-way width of 60 feet or less, depending on the location and the type of development along the street. The typical pavement width in a new residential subdivision is 32 feet. The City's Subdivision Ordinance does allow narrower street pavement in relatively low-density areas where criteria regarding average density, the amount of off-street parking provided and other factors can be met. Narrower streets and tighter corner radii are encouraged within the planning area as they enhance the pedestrian scale of the neighborhood and help encourage street-oriented development.

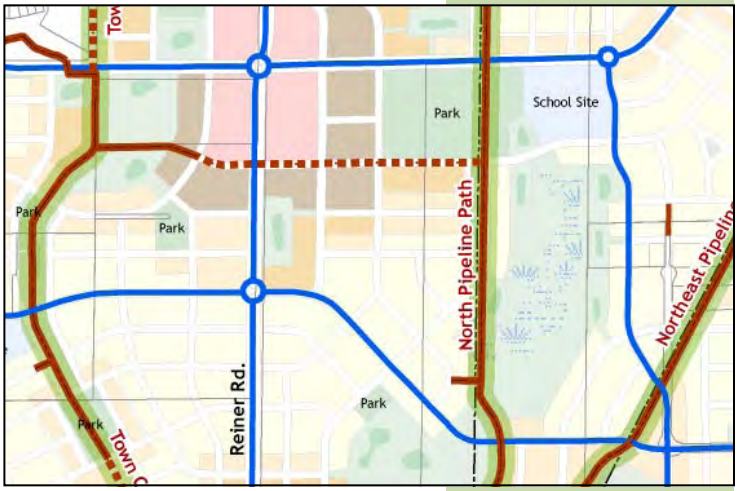
Other local street segments adjacent to large parks or activity centers may have a 66-foot right-of-way to allow for wider pavement recommended where considerable on-street parking is anticipated. Rather than being perfectly straight, longer neighborhood streets are planned to include curves and bends that will add interest and provide views of the streetscape in the distance while traveling through the neighborhood. Many local street segments also end opposite planned parks and activity areas to provide interesting terminal views; and all proposed parks have significant public street frontage to increase visibility and accessibility.

3. Roundabouts

Roundabouts may provide a cost-effective, safer alternative to other methods of traffic control at many types of street intersections. Well-designed roundabouts can reduce traffic speeds, improve traffic flow and increase safety for pedestrians and bicyclists. Roundabouts are conceptually illustrated on the *Plan* maps at selected intersections, but other intersections may also be good locations. It is recommended that the alternative of a roundabout be considered at all intersections where traffic signals are planned or may be planned in the future.

4. Pedestrian and Bicycle Facilities

Pedestrian mobility in the planning area is encouraged by the interconnected "grid-like" street system, which provides multiple routes to most destinations. All City of Madison streets will have public sidewalks and are designed to also accommodate bicycle travel. Mid-block pedestrian/bicycle paths are recommended where a reasonably direct street connection is not available. Marked bicycle lanes are recommended on principal streets, and off-street multi-purpose trails are integrated with existing and planned regional bicycle facilities.



Map 9: Transportation Plan - Pedestrian and Bicycle Facilities (excerpt)

Three types of bicycle facilities identified in the 2000 Madison Urban Area and Dane County Bicycle Transportation Plan are recommended in the planning area. Bicycle lanes on more heavily traveled roads such as arterials and collectors provide more-direct routes and have fewer stops, and are often preferred by commuters and long-distance bicyclists. The local neighborhood street network also provides relatively direct routes, but has much lower traffic volumes and is suitable for a wider biking population. Off-street pedestrian/bicycle paths also serve a wider population, including recreational riders and younger riders. Recommended bicycle facilities are shown on **Map 9 Transportation Plan-Pedestrian and Bicycle Facilities** and described further below.

a) Marked Bicycle Lanes

Marked bicycle lanes are recommended on all of the arterial or collector roadways. The bicycle accommodation on CTH T/TT might be off-street rather than on-street, depending on the design of future improvements to that highway. As the planning area develops, bicycle lanes may be appropriate on additional streets.

b) Local Street Network

While many roadways are planned to have dedicated bicycle lanes, the recommended street network also provides alternative routes for bicycle travel through the neighborhood on local streets that are relatively direct and continuous, but will generally have relatively low traffic volumes. The street alignments shown in a neighborhood development plan are sometimes modified as individual developments are approved, but it is important that the street linkages providing these low-traffic routes to be maintained and that other plan objectives are met.

c) Pedestrian and Bicycle Paths

Several long, primarily off-street pedestrian and bicycle paths are recommended through the planning area. These paths connect with the regional bicycle trail system and connect points within the neighborhood. Shorter path segments provide connections and amenity within the neighborhood.

Interstate Path

The proposed Interstate path is located adjacent to Interstate 39-90-94 and Interstate 94 within the planning area. Along Interstate 39-90-94, the path would be located immediately east of any sound attenuation berm necessary for the residential development planned in the area. Immediately south of Lien Road where there are relatively steep slopes for biking, the path may have to shift to the east near the extension of City View Drive. Along Interstate 94, the path could be primarily located adjacent to the Interstate right-of-way as noise attenuation measures may not be provided given the non-residential uses planned in the area.

Planning for the path along Interstate 94 should be done in conjunction with the Wisconsin Department of Transportation's planning for expansion of Interstate 94 to six lanes. The City of Madison could also investigate potential cost sharing with the State for the path as it provides an alternative mode of travel. This path could continue along Interstate 94 to the east beyond the planning area.

Town Center Path

The proposed Town Center path is primarily off-street but also includes on-street segments. The path travels between the Interstate Path on the south and extends to the northern limits of the planning area. The path passes though the Community Mixed-Use District and travels near the Neighborhood Mixed-Use District at the intersection of Lien and Reiner Road. The path also connects with planned paths in the Village at Autumn Lake subdivision.

North Pipeline Path

The proposed North Pipeline path is located adjacent to the ANR natural gas pipeline that travels in a north-south direction between Interstate 94 and the northern limits of the planning area. The plan recommends that a portion of the path be included within the wide boulevard of a planned parkway. If the path cannot be accommodated off-street in this area, it is recommended that homes along the street make use of an alley. This would eliminate the need for driveways and therefore reduce conflicts for bicyclists. Where the pipeline travels through a low-lying area associated with Door Creek, it may be advantageous to locate the path adjacent to future development. Since road crossings of the pipeline are

minimized, there will be relatively few conflict points for users of the path. In the future, this path could continue along the pipeline easement beyond the planning area.

Northeast Pipeline Path

The proposed Northeast Pipeline path is located adjacent to the ANR natural gas pipeline that travels in a northeast-southwest direction between CTH T and Thorson Road. The path would generally be located immediately adjacent to the easement for the pipeline. Where the pipeline travels through a low-lying area associated with Door Creek, it may be advantageous to locate the path adjacent to future development. Since road crossings of the pipeline are minimized, there will be relatively few conflict points for users of the path. In the future, this path could continue along the pipeline easement beyond the planning area.

East-West Path

The proposed East-West path is located along the northern limits of the planning area. It would travel between the Town Center Path on the west and Thorson Road on the east. The portion of the path on the Sun Prairie Concrete Property is illustrated within a current quarry area. This illustrative alignment may change depending on the plans for the quarry and any future development in this area.

d) Bicycle Wayfinding

It is recommended that a bicycle wayfinding system be developed for the planning area.

e) Bicycle Parking

Adequate bicycle parking facilities should be provided both within the public right-of-way and on development sites. These facilities should be located in prominent public areas, near building entrances and be appropriately sized and be well maintained.

f) Traffic Calming

Traffic calming mechanisms, such as bump-outs at intersections, should be considered to improve the pedestrian and bicycle environment. These mechanisms may be especially important in high pedestrian and bicycle areas such as near schools and parks and within mixed-use centers

g) Snow Removal

Sidewalks, bicycle lanes and pedestrian-bicycle paths should be adequately maintain for year-round use including appropriate snow removal.

f) Mitigate Barriers to Pedestrian and Bicycle Mobility

Barriers to bicycle mobility, such as streets without adequate crossing facilities, should be identified. Locations where improvements are needed most should be prioritized and then improvements made.

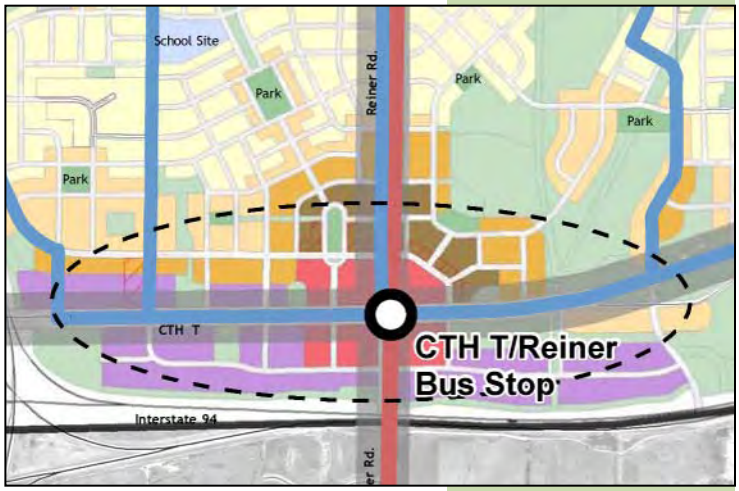
5. Transit Service

The planning area is designed to facilitate future transit service through a relatively high overall density, recommended high-density nodes, mixed-use centers and employment districts. Further, individual development projects should incorporate transit-oriented development features such as buildings placed close to the street, convenient waiting areas for transit users and a mix of land uses that will foster the establishment of transit service in the neighborhood. It is recommended that improved transit service to the planning area be implemented at the earliest feasible time to help attract transit-oriented residents to the neighborhood and encourage transit usage from the beginning as the neighborhood develops.

a) Madison Metro Transit

Two options for service to serve initial development in the planning area are illustrated

on **Map 10 Transportation Plan-Initial Transit Service**. These routes are Peripheral Loop Option A that utilizes the East Towne Bus Stop and Peripheral Loop Option B that utilizes the East Transfer Point. **Map 11 Transportation Plan-Future Transit Service** illustrates potential transit service when the planning area is more fully developed and also incorporates commuter rail service. These routes are Connector Option C that travels through the planning area between the East Towne Bus Stop and the East Transfer Point and Local Circulator Option D that illustrates a service throughout the planning area based out of a commuter rail station at City View Drive. A brief description of the routes is provided on these maps.



Map 10: Transportation Plan - Initial Transit Service (excerpt)

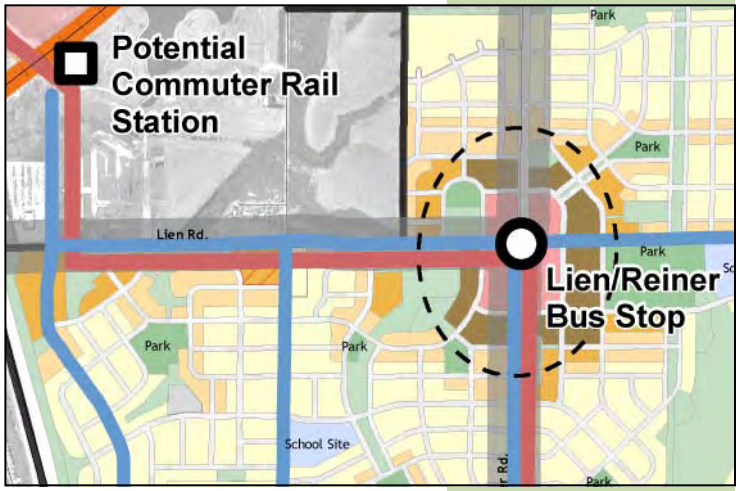
b) Paratransit Service

It is recommended that Metro Transit and other providers provide quality ADA paratransit services throughout the planning area.

c) Commuter Rail Service

As noted in the background section of this *Plan*, the potential for a commuter rail line along the Wisconsin Department of Transportation rail line is being considered. The line would extend from the City of Middleton through the City of Madison's isthmus and terminate near the intersection of Nelson and Reiner Roads. There would be numerous stops along the route including a park and ride lot at Nelson and Reiner Roads. Service would be provided seven days a week from approximately 6:00 a.m. through 11:00 p.m. with the most frequent service during the morning and afternoon commutes.

At this point, the preferred Phase 1 option includes new commuter rail service on this rail line. The initial service would extend from the City of Middleton, travel through the City of Madison's isthmus, and terminate near the intersection of Nelson and Reiner roads. Service would be provided between approximately 6:00 a.m. and 11:00 p.m. seven days a week with the most frequent service provided during the morning and afternoon commutes



Map 11: Transportation Plan - Future Transit Service (excerpt)

d) Transit Priority Corridors

The Transit Priority Corridor concept for the planning area includes public transit improvements that increase the attractiveness of bus services operated along the major the corridors within the planning area and creates high quality linkages to the multi-modal public transit system outside the neighborhood planning area. Madison Metro currently operates an expansive and well-utilized local bus system throughout the metropolitan area that would be enhanced with a number of bus rapid transit (BRT) elements, as described below. This concept represents an increased level of transit service and capital investment throughout the planning area. The corridor would reserve a diamond lane for use by buses. Some portions of the Transit Priority Corridor may have buses operating in mixed traffic due to street right-of-way constraints. The following features should be considered for the Transit Priority Corridors.

Frequent, High-Quality Transit Service
Frequent bus service using vehicles with BRT elements will provide frequent service - every 30 minutes throughout the day in each direction between the East Transfer Point, a proposed new commuter rail station at City View Drive and the East Towne bus transfer location (along the service drive of East Towne Mall).

Traffic Signal Priority
Conditional traffic signal priority will be implemented at all feasible intersections in the Transit Priority Corridor. Conditional priority gives extra green time to buses that have significant passenger loads and are running behind schedule as a means to manage headways between vehicles.

Enhanced Transit Stops
Bus stops along the Transit Priority Corridor will be consolidated such that the average station spacing is between one-third and one-half mile. Express routes will skip some of these stops to serve only major activity centers.

Real-time Passenger Information
Enhanced transit stops along the Transit Priority Corridor will offer real-time schedule information and customer alerts. The route also will offer on-board passenger information, including automated next stop announcements.

6. Transportation Demand Management

In order to ensure the viability and desirability of non-automobile modes of transportation in the planning area, a number of transportation demand management initiatives are proposed.

a) Transportation Demand Management Plan and Program
A Transportation Demand Management Plan and Program should be developed for the planning area. Employer-based TDM measures should be instituted as part of a comprehensive planning area-wide TDM program, in order to enhance the desirability of non single-occupancy vehicle (SOV)-based transportation modes--including public transit, walking, bicycling, carpooling and telecommuting.

b) Transportation Management Associations
The formation of Transportation Management Associations (TMAs) should be considered, where appropriate, as a mechanism to organize individual employers and administer TDM initiatives in the planning area. A TMA is an organized group that applies various approaches to help facilitate the movement of people and goods with an urban area--most often stressing the use of transportation demand management strategies and measures. TMAs are often legally constituted and frequently led by the private sector, in partnership with public sector entities, in an effort to address transportation challenges.

TDM Measures to be considered for inclusion in the TDM Plan/Program
In general, "transportation demand management" refers to a set of actions or strategies, the goal of which to encourage travelers to use alternatives to driving alone, especially at the most congested times of the day. The term TDM encompasses both alternative modes to driving alone and the techniques, or strategies, that encourage use of these modes. TDM alternatives include travel options such as:

- Carpools and vanpools
- Public and private transit (including shuttles)
- Bicycling, walking and other non-motorized travel

TDM measures also can include "alternative work hours" program options that reduce the number of days commuters need to travel to the worksite, or that shift commuting travel to non-peak period times of the day. Alternative work hours include:

- Compressed work weeks, in which employees work a full 40-hour work week in fewer than the typical 5 days
- Flexible work schedules, which allow employees to shift their work start and end times (and thus travel times) to less congested times of the day
- Telecommuting, in which employees work one or more days at home or at a "satellite work center" closer to their homes

TDM strategies include improvements in alternative modes of transportation; financial and/or time incentives for commuters who use alternative modes; information dissemination and marketing activities that heighten travelers' awareness of and/or interest in alternatives; and supporting services that make the use of alternatives more convenient or that remove psychological impediments to use of alternatives. Examples of TDM strategies are:

- Improvements to existing transportation services, such as shuttle buses and vanpool programs
- Financial/time incentives, for example, preferential parking for ride sharers, subsidies for transit riders, and transportation allowances
- Parking management programs
- Priority treatment for ride sharers, for example, high occupancy vehicle (HOV) lanes and freeway ramps
- Employer support measures, such as employee transportation coordinators, on-site transit pass sales, on guaranteed ride home programs
- Marketing and promotion techniques (such as transportation fares or periodic prize drawings for users of alternatives modes)

TDM measures can be particularly effective in attracting public transit ridership from individuals who own their own vehicles (i.e., "choice" riders) in the planning area. Possible transit service improvements that could help attract choice riders include:

- Pursuing the development of more pre-paid unlimited ride pass programs, commuter choice pass programs, and employer-subsidized transit fare programs with large employers and employer associations in the City
- Pursuing further introduction of Intelligent Transportation Systems (ITS) technologies that enhance service reliability, real-time information, convenience and security
- Continuing to install bicycle racks on buses

7. Car-Free or Car-Light Zones

Car-free or car-light zones have been used in some communities as a means of creating pedestrian friendly urban environments that reduce traffic congestion and air pollution. In car-free zones, motor vehicles are prohibited with the exception of delivery vehicles and short-term residential parking of one hour or less. Parking is typically provided in parking lots or ramps at the edge of the car-free zone. This strategy is common in European cities, but is not yet widely used in United States. The creation of car-free zones within the planning area's mixed-use districts should be considered.

F. Household Energy Consumption

It is anticipated that the goal of reduced household energy consumption will be achieved through the use of the following practices and other practices as they become available.

1. Energy Efficient Site Planning/Design/Certification

- Design lots and orient buildings to accommodate: 1) active solar for energy generation, 2) passive solar for heating and daylighting, and 3) trees to shade the house in the summer
- Build at higher densities which tends to be more efficient due to shared walls and smaller dwelling units
- Ensure homeowners' association regulations allow green building practices (i.e. renewable energy systems, clotheslines)

- Seek agreements between developers and builders that stipulate that builders will incorporate components of measurement programs such as Wisconsin ENERGY STAR Homes, Green Built Home, Green Globes and LEED.

2. Education and Outreach

Many of the entities can help provide information regarding ways to reduce consumption. Provide education on the benefits and incentives to energy efficient construction: The following groups are targeted at specific points:

Provide information to Developers:
- While planning the development project
- When selecting builders and contractors
- When selling lots and constructing buildings

Provide information to Builders:
- When purchasing a lot
- When designing and selecting materials for the project
- When marketing homes to end-users

Provide information to End-Users:
- When purchasing a home or lot by including information in closing documents
- When considering remodeling or rehabilitation projects
- Include information in utility company materials sent to account holders
- Provide education to students through the schools that serve the planning area (Sun Prairie Area School District)
- Neighborhood newsletter

Provide information to all interested parties:
- Through the City website or Northeast Neighborhoods website
- Recognition programs for developers, builders and end-users that help achieve the goal

3. Energy Efficient Appliances and Fixtures
- Use energy efficient appliances and fixtures (such as ENERGY STAR qualified) including the furnace, air conditioner, hot water heater, refrigerator, dishwasher, clothes washer and dryer, water softener and stove/oven
- Use programmable thermostats
- Use clotheslines to dry clothes
- Use compact fluorescent (CFL) or light-emitting diodes (LED) for indoor and outdoor lighting
- Use master electrical switches that can power down a number of outlet throughout the house

4. Behavior
- Perform energy audits and track energy usage of appliances and the home to seek ways to decrease energy usage
- Reasonably turn down furnace and air conditioner
- Turn off appliances and lights when not in use
- Develop a Smart grid. Smart grid technology provides consumers with energy information instantly coupled with a rate structure that causes customer behavior to lower electrical needs especially at peak demand. To accomplish this objective, a smart grid incorporates consumer equipment and behavior in grid design, operation, and communication technologies, to reduce demand especially during peak usage periods. Metering tracks how much electricity was used and when electricity was used. The price of electricity used during high demand periods is increased and the price of electricity used during low demand periods is decreased.

5. Renewable Energy

Numerous renewable energy sources are recommended to help achieve the goal. Some of these approaches are suited for use on a smaller scale such as an individual building or lot. Some of the approaches are more effective when developed as a large-scale system serving multiple buildings or lots, as they require a greater level of capital investment and expertise. Development of large-scale systems might involve assistance from the local utilities, for-profit and non-profit organizations, the City and other organizations. Systems that have greater spatial requirements could potentially be incorporated into areas such as parks, street right-of-ways and public or institutional facilities.

- Solar thermal. A system that uses solar panels to provide hot water or heat for interior space.
- Solar electric. A system that uses photovoltaic panels to produce electricity for direct consumption or credit from the utility.
- Geothermal. A heating and cooling system that moves a substance through a series of tubes to draw heat from the earth in the winter and cold from the earth in the summer since the earth has a constant temperature.
- District heating. A small power plant with a series of steam pipes underground that provides heat to the buildings that are connected to the plant. The heating plant could be run on biomass, such as wood pellets and may also be able to create some electrical load.
- Solar thermal storage for heating. This system uses solar panels to store heat underground during the summer. Heat is then recovered and used for heating during the colder months.
- Wind power. Wind power systems could range from small rooftop systems to tower mounted turbines. The planning area may have the potential to produce larger amounts of wind power through wind turbines or windmills. Larger systems would send electricity back to the grid and the residents would get a credit for the electricity the system creates.
- Subscription to renewable energy. Residents could subscribe to receive renewable energy through the utility.

G. Household Water Consumption

It is anticipated that the goal of reduced household water consumption will be achieved through the use of the following practices and other practices as they become available.

1. EPA WaterSense Fixtures

Toilets account for more water use than any other fixture within a home. WaterSense toilets use a maximum of 1.28 gallons per flush (gpf) compared to the existing federally mandated standard of 1.6 gpf. WaterSense toilets must also meet a performance standard to ensure consumer acceptance. Other WaterSense fixtures such as faucets and showerheads should be used when they become available.

2. EPA WaterSense Homes

The EPA has released a draft labeling specification for new residential homes. Similar in concept to an ENERGY STAR home, WaterSense Homes will combine WaterSense products with other water-efficient fixtures and practices to reduce the water consumption by about 20% over a standard home. The following information comes from the EPA website:

> *In addition to WaterSense toilets and faucets, these new homes include dishwashers and clothes washers with the ENERGY STAR label, if those appliances are installed when the home is built. WaterSense Homes will incorporate a hot water distribution system that decreases the amount of time it takes for hot water to reach the faucet or shower. Waiting for hot water wastes thousands of gallons of water per year. Pressure regulator valves will be installed downstream of the water meter to reduce the pressure of the water going into the home. This reduces the maximum water flow from fixtures and the likelihood of leaking pipes and hoses. Builders will have the option of developing an outdoor "water budget" and planning accordingly, or ensuring that the landscaping is designed efficiently. If the home has an outdoor irrigation system, it must be installed and audited by WaterSense irrigation partners to ensure efficiency.*

3. **Low Impact Landscaping**
   Landscaping in public and private areas should be designed to minimize the need for watering. Native plants should be used extensively as they are adapted to natural rainfall patterns. If sprinkler systems are utilized, a system should be chosen that has the capability to detect soil moisture to prevent over watering.

4. **Rain Barrels and Cisterns**
   Rain barrels and cisterns are placed beneath redirected down spouts and store rainwater for watering rather than relying on the potable water supply.

5. **Greywater Systems**
   Greywater is wastewater that has not come into contact with human biological waste. Examples of domestic processes that produce greywater are washing dishes, washing clothes and bathing. Systems that treat and recycle greywater for non-potable uses such as outdoor watering should be considered.

6. **Automated Meter Reading and Frequent Billing**
   Automated Meter Reading would provide residents with close to real-time water use information and would allow the City to remotely read water meters. Remote meter reading would make it cost-effective for the Water Utility to bill on a more frequent cycle, perhaps as often as every month, compared to the current six-month billing cycle.

7. **Conservation Rate Structure**
   The Water Utility could implement a conservation rate structure, which rewards decreased water use more than the current rate structure. A change in the rate structure would require Wisconsin Public Service Commission approval and would likely require more frequent billing than the current six-month billing cycle.

8. **Conservation Practices**
   General water conservation practices should be utilized such as only doing full loads in the clothes washer and dishwasher.

9. **Education and Outreach**
   General education and outreach programs should be implemented to highlight ways to reduce water consumption.

H. On-Site Stormwater Infiltration

It is anticipated that the goal of increased on-site stormwater infiltration will be achieved through the use of the following practices and other practices as they become available.

1. **Rain Gardens**
   Rain gardens are specially-designed gardens that collect and infiltrate stormwater from impervious areas. They are generally designed to be 6-8 inches deep, in order to retain stormwater long enough for it to infiltrate into the ground. Rain gardens are typically planted with native vegetation, though ornamentals may also be used. They can look as manicured or as natural as the gardener chooses. Maintenance is similar to that of any garden. Regular weeding is required the first couple of years, but once established, the native plants tend to crowd out most weeds.

   Rain gardens are sized depending on the area they are intended to serve. Relatively smaller rain gardens could be constructed on individual lots to infiltrate stormwater from the lot (building and driveway) and potentially the sidewalk and street. Larger rain gardens could be constructed at the low point on a block to provide infiltration for the whole block and potentially the sidewalk and street.

2. Porous Pavement

Porous pavement is permeable and therefore allows stormwater to infiltrate into the ground. Currently it can be utilized for driveways, walkways and patios on private property within the City of Madison. The City does not support the use of porous pavement for public streets and some public sidewalks until it has a proven successful track record and installation costs are more competitive.

3. Green Roofs

Green roofs are rooftops planted with vegetation. Intensive green roofs have thick layers of soil (6 to 12 inches or more) that can support a broad variety of plant or even tree species. Extensive roofs are simpler green roofs with a soil layer of 6 inches or less to support grasses or other ground cover.

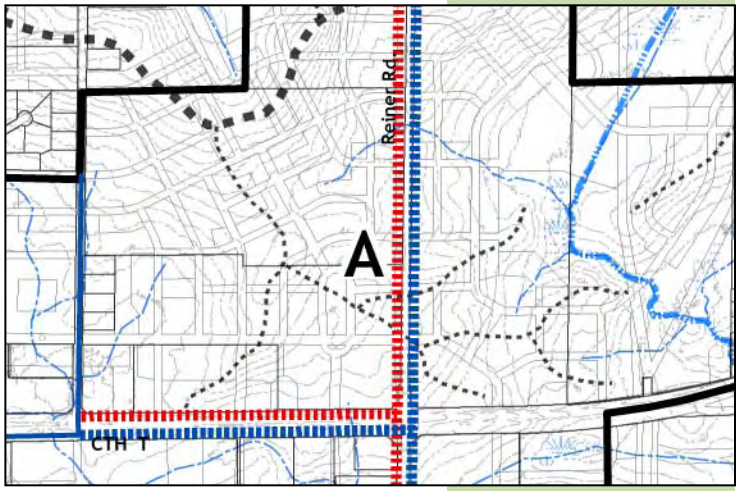
I. Energy Efficient Service Delivery

It is anticipated that the goal of energy efficient service delivery will be achieved through all City agencies working to identify ways of providing services to the planning area in the most energy efficient method possible. It is anticipated that the following practices will be used in addition to other practices as they become available.

1. **Energy Efficient Design and Materials** for construction of municipal facilities such as parks, libraries, police and fire stations and Water Utility wells and booster stations
2. **Energy Efficient Fixtures** for municipal facilities
3. **Use of Renewable Energy** for operation of municipal facilities
4. **Efficient City Vehicles** that are fuel efficient, utilize alternative fuels or hybrid technology
5. **Efficient Routing and Tracking** for refuse and recycling pick up, snow and ice removal, tree maintenance, and street repair through the use of global positioning systems (GPS), automated vehicle location (AVL), automated work order systems and other technologies
6. **Automatic Meter Reading** systems for the Water Utility
7. **Zero Waste Projects** to increase recycling and reduce waste

J. Sanitary Sewer Service

The Phase 1 planning area is part of three watershed drainage basins and there are sub-basins within each of them. These drainage areas primarily determine how sanitary sewer service will be provided. **See Map 12 Utilities and Development Phasing**



Map 12: Utilities and Development Phasing (excerpt)

1. Door Creek Basin

The portion of the planning area in the Door Creek drainage basin will be served by extensions of the MMSD Far East Interceptor/Door Creek Extension and City of Madison sewers located south of the planning area in the Sprecher neighborhood. In 2008, MMSD constructed the Gaston Road Extension of the Far East Interceptor. This extension followed Gaston Road to the north underneath Interstate 94 to a point approximately 850 feet north of the Interstate.

In 2009, a City of Madison main located at Sprecher Road and Interstate 94 will be extended northward along Sprecher Road and Reiner Road to an area just south of the proposed extension of Lien Road. An associated sewer will be extended westward from the intersection of Reiner and CTH T to Felland Road. In the future, sewer main extensions may be made

from a main located at the current eastern limits of Milwaukee Street. This extension will likely follow the future extension of Milwaukee Street into the neighborhood and be constructed in conjunction with the roadway project.

2. Starkweather Creek Basin

Much of the planning area is in the Starkweather Creek drainage basin. This portion of the planning area will be served by the 24-inch Madison Metropolitan Sewerage District (MMSD) Northeast Interceptor/Lien Extension sanitary sewer interceptor. The interceptor has been extended underneath Interstate 39-90-94 and into the Village at Autumn Lake subdivision by the City of Madison. It will serve development in the Felland neighborhood, Nelson neighborhood and the planning area.

The interceptor will eventually be extended northward through the Village at Autumn Lake subdivision in two branches. One branch will extend northward up to the City of Madison's Nelson's Road Lift Station which is nearing capacity and will be removed. The second branch will extend northeastward along the Wisconsin DOT railway up to the Burke Town Hall property. Future extensions of these sewers will serve the remainder of the Starkweather Creek drainage basin by gravity flow, with the collection mains generally located within public streets and drainageways.

3. Upper Koshkonong Creek Basin

Sanitary sewer service to the portion of the planning area in the Upper Koshkonong drainage basin is not expected for many years and therefore the location of future sewers has not been determined. Service will likely come via extensions of the MMSD Far East Interceptor potentially located along the tributaries of Upper Koshkonong Creek located just east of the planning area. It may also be possible to serve some areas in the Upper Koshkonong basin with sewers from the Starkweather Creek and Door Creek drainage basins.

4. Sanitary Sewer Charges

All developing parcels can expect one or more charges from the Madison Sewer Utility for the privilege of connecting to public sanitary sewer. This charge can be in the form of an impact fee, direct or deferred assessment or a simple connection charge. Certain parcels could reside in multiple fee districts. The City has adopted two Sanitary Sewer Improvement Fee Districts that apply to portions of the planning area. The Felland Road District applies to lands in the northwest of portion of the planning area and the Northeast District applies to lands in the southwest portion of the planning area. Charges that represent a prorated share of the costs for the City to extend sewer service to the respective parcel will be required. In addition, all development parcels will incur sewer area charges from the Madison Metropolitan Sewerage District for downstream facilities and treatment plant connection charges. All charges are adjusted annually for interest or inflation.

K. Public Water Service

1. Water Distribution System

Public water service to the planning area will be provided by the Madison Water Utility through the extension of water mains within Pressure Zone 123, which covers lands on the far east side of Madison. The Water Utility has extended water mains into the planning area. The first water main was extended eastward along CTH T and northward along Felland Road up to the Bridle Downs subdivision. This main was installed in conjunction with infrastructure for the Felland Reservoir. A second water main was extended eastward along Lien Road to Felland Road as part of the recent Lien Road reconstruction project. A third water main will be extended northward along Sprecher Road and Reiner Road and also westward along CTH T. This project will be completed in 2009 in conjunction with the sanitary sewer extension along the same route.

As development occurs, larger water mains will be extended along the primary roads, with smaller water distribution mains constructed along local streets developed within the neighborhood. The Water Utility will also seek to loop the larger mains to increase service reliability.

2. Reservoirs and Water Towers

Pressure Zone 123 is pressurized by the Cross Hill water tower located near Nelson Road and USH 151 and the Sprecher Road Tower located within the Grandview Commons subdivision. These towers have the ability to provide adequate water pressure to elevations between about 900 and 1,040 feet U.S.G.S, which will be sufficient for almost all parts of the neighborhood. The use of a booster station will be required to serve development areas above 1,040 feet.

While no water towers or additional reservoirs are planned within the planning area, the Water Utility Master Plan does identify a conceptual water tower location on the higher elevations east of Thorson Road and south of Burke Road. This potential tower would likely provide increased water pressure in the planning area.

3. Public Wells

In the near term, Wells 15, 25 and 29 will provide potable water to the planning area. Continued development on the far east side of Madison will increase the demand for water, and new municipal wells will eventually be required to ensure a reliable supply. The Water Utility Master Plan includes a conceptual location for a future Well 41 near the intersection of Reiner Road and CTH T. This location is very conceptual at this point, as the siting of a new well requires a considerable amount of detailed analysis and review. Development of a well in this general location should consider potential impacts to the water resources in the area, most notably Door Creek.

L. Stormwater Management

1. Land Use and Street Plan

The Land Use and Street Plan illustrates a basic framework of proposed stormwater management facilities within the planning area, including open drainageways and stormwater detention facilities. The map does not illustrate the location of smaller infiltration mechanisms such as rain gardens or segments of underground storm sewer that will be needed at some locations. The facilities shown on the map are preliminary, but their locations and approximate sizes are based on an analysis of drainage patterns and the amount of land and potential future development within the many sub-basins in the planning area. Detailed stormwater management planning and engineering for development projects may result in some modifications to these conceptual facilities, but it is expected that any revisions will be generally consistent with the framework recommended in the Land Use and Street Plan.

2. Open Drainageways

Much of the stormwater conveyance within the planning area is planned within open drainageways, many of which are part of larger open space corridors. Drainageways provide environmental benefits, such as an increased opportunity for water to infiltrate back into the ground and a location for wildlife habitat and movement. To the extent compatible with stormwater management objectives and other intended uses of the corridor, drainageways should be maintained in a relatively natural, undeveloped state. Natural groundcovers are encouraged as an alternative to mowed swales. The natural appearance can provide a visual open space amenity within the neighborhood and serve as a land use buffer.

The open drainageways are recommended to be at least 75 feet in width. Drainageways that contain detention facilities in addition to stormwater conveyance will most likely be wider. While portions of the corridors may be dedicated to the public for stormwater management or other purposes, some of the lands within the illustrated corridors may remain as private property. It is also possible that lands adjacent to streams and wetlands will be subject to

special regulations that are applicable to an area larger than the illustrated corridors.

3. **Streambank and Wetland Improvements**
   It is recommended that measures be taken to limit erosion along the existing streams and drainage courses within the planning area. The stream banks could be stabilized through selective tree pruning to increase sunlight and installation of appropriate native plants. The limited use of natural boulders or similar materials may also be appropriate. In some cases the existing streams and drainage courses will not be suitable for locations to accept urban stormwater. In these situations, planned detention facilities that are located adjacent to these waterways will gradually release stormwater into the waterway at rates similar to the pre-development rate. Measures should also be taken to improve the function of wetlands within the planning area. Ideally, improvements to the streams and wetlands will occur at the time the adjacent land is developed or earlier.

4. **Storm Sewers**
   The street network and underground storm sewers will accommodate the majority of "upstream" stormwater conveyance, collecting stormwater that will eventually flow into open drainageways and detention facilities. In some situations, larger storm sewers will be necessary to convey stormwater to its ultimate destination. Storm sewers will also be used to connect drainageways where maintaining an open drainageway is a not reasonable approach, given the proposed land uses and urban street pattern.

5. **Stormwater Detention Facilities**
   Preliminary locations for stormwater detention facilities are illustrated on the Land Use and Street Plan. In locating the facilities, it was generally assumed that individual properties will develop separately and that about five percent of each property will be required for storm water detention. If the development of several properties is coordinated, it may be possible to shift the locations of some of the required stormwater facilities among them and perhaps eliminate some. The actual percentage of any property that will be utilized for stormwater management will be determined during detailed development planning, and will vary based on the type of development proposed, the stormwater management mechanisms used within the development, soil conditions, and applicable stormwater regulations.

6. **Madison Stormwater Utility**
   The Madison Storm Water Utility, established in 2001, handles stormwater management in the City of Madison for both existing conditions and post-development conditions. The Utility charges user fees to all City of Madison parcels for this service.

M. Other City of Madison Services

1. **Police Protection Services**
   The City of Madison Police Department will provide police protection services to lands within the planning area that are in the City of Madison. Lands located in the Towns will continue to receive services from the Dane County Sheriff's Office or through another arrangement that the Towns may make in the future.

   The planning area is part of both the Madison Police Department's East District and North District. The East District Station is located at the intersection of Thompson Drive and Cottage Grove Road just west of Interstate 39-90-94. This station is about two miles from the edge of the neighborhood. The North District Station is located on Londonderry Drive near the intersection of Packers Avenue and Northport Drive. This station is about four miles from the edge of the neighborhood.

   The City of Madison continues to grow and expand, and additional police officers and support

IV. PLAN IMPLEMENTATION

This section recommends the actions needed to prepare the planning area for development with the full range of urban services and to ensure that future development is consistent with the recommendations of this *Plan*.

A. Neighborhood Development Plan Adoption

The City of Madison Comprehensive Plan, adopted in January 2006, includes broad growth and land use recommendations for the planning area, which is identified as part of Peripheral Planning Area C and recommended as a potential location for relatively near-term City of Madison expansion and future development. The Comprehensive Plan also requires that a more-detailed plan for future City growth areas be prepared and adopted prior to beginning urban development within them. The Northeast Neighborhoods Development Plan has been prepared to provide detailed land use, transportation, and public service recommendations to guide the future growth and development of the planning area.

It is recommended that the Northeast Neighborhoods Development Plan be adopted as a supplement to the City of Madison Comprehensive Plan. It is also recommended that the Comprehensive Plan Generalized Future Land Use Plan map be amended as appropriate during the next review and evaluation to reflect the land use recommendations in the Northeast Neighborhoods Development Plan.

B. Sustainability Goals

1. Transportation

a) Implementation Entities and Responsibilities

The table below outlines the recommendations and implementation responsibilities For some of the recommendations, cooperation will be needed from several different entities. **See Table 6**.

b) Incentives

Employer-based Transportation Demand Management (TDM) measures and other incentives to help enhance the desirability of non single-occupancy vehicle (SOV)-based transportation modes should be considered as part of an overall TDM program or strategy for the planning area.

Individual employers should be organized, possibly through the formation of a Transportation Management Association, in an effort to administer a range of TDM-based incentives. Such incentives could include those that address the financial, time and convenience aspects of individual transportation choices. These can include preferential parking for ride sharers and subsidies for transit riders. Other employer-based support measures may include transit pass programs, on-site sales of transit passes and guaranteed ride home programs.

"Parking cash-out" programs are another employer-based program that can be utilized. Under a parking cash-out program, an employer gives employees a choice to keep a parking space at work or to accept a cash payment and give up the parking space and utilize another mode of transportation such as rideshare, transit, bicycle or walking. Employees are not forced to stop driving or give up free parking, but those who do are rewarded financially.

c) Measuring Success

Household Trip Reduction

It is anticipated that the data will be compiled through a survey that will be sent to a portion of the households within the planning area. The survey is intended to obtain travel data by

Table 6: Transportation Goal - Recommendations and Implementation Entities							
	City	Developer	Builder	End-User	Utility	Other Govt. (i.e. Dane County, RTA)	Other/ Non-profits
Land Use							
Compact, mixed-use development	X	X					
Transit-oriented development	X	X	X				
Pedestrian and Bicycle Facilities							
Interconnected street network	X	X					
Sidewalks	X	X	X				
Pedestrian and bicycle paths	X	X	X				
Bicycle wayfinding	X	X	X				
Bicycle parking	X	X	X				
Traffic calming	X	X	X				
Snow Removal	X			X			
Mitigate barriers to pedestrian and bicycle mobility	X	X					
Transit Service							
Madison Metro Service	X						
Paratransit	X					X	
Commuter Rail Service	X					X	
Transit Priority Corridors	X	X				X	
Transportation Demand Management (TDM)							
TDM Plan and Program	X	X		X		X	X
Transportation Management Associations	X	X		X		X	X

asking residents to keep track of their trip-making behavior over a specific period of time, usually a week. The National Household Travel Survey (NHTS), a federally-administered travel survey (funded and managed by the Federal Highway Administration), will be used as a model for the planning area travel survey. The NHTS is a source of national data on the travel behavior of the American public. The dataset allows analysis of daily travel by all modes, including characteristics of the people traveling, their household and their vehicles.

Household Vehicle Miles Traveled (VMT) Reduction

It is also desirable to reduce household vehicle miles traveled by 25%, in comparison to a baseline, for the planning area. At this time, the data collection and monitoring methods for household VMT (or VMT per capita) are under development. A specific measurement and monitoring program will be developed as VMT data collection technologies and techniques are refined over time.

d) Monitoring Success

Data on progress towards the goal will be compiled and reviewed with every 1,000 dwelling units that are constructed within the planning area. Therefore, the first review will occur after 1,000 units have been constructed, a second review will occur after 2,000 units have been constructed and subsequent reviews will continue into the future.

2. Energy

a) Implementation Entities and Responsibilities

The table below outlines the recommendations and implementation responsibilities For

some of the recommendations, cooperation will be needed from several different entities. **See Table 7**.

Table 7: Energy Goal - Recommendations and Implementation Entities

	City	Developer	Builder	End-User	Utility	Other Govt. (i.e. Focus on Energy)	Other/ Non-profits
Energy Efficient Site Planning/Design/Certification							
Design lots and orient buildings	X	X	X				
Build at higher densities	X	X	X				
Ensure homeowners' associations allows green building practices		X					
Agreements to incorporate components of programs such as Wisconsin ENERGY STAR Homes, Green Built Home, Green Globes, LEED		X	X				
Education and Outreach							
Education on various topics	X	X	X	X	X	X	X
Recognition programs	X				X	X	X
Energy Efficient Appliances and Fixtures							
Use energy efficient appliances and fixtures			X	X		X	
Use programmable thermostats			X	X		X	
Use clotheslines to dry clothes				X			
Use CFLs or LEDs for indoor and outdoor lighting			X	X		X	
Use master electrical switches			X	X		X	
Behavior							
Perform energy audits and track energy usage				X	X	X	X
Reasonably turn down furnace and air conditioner				X			
Turn off appliances and lights when not in use				X			
Develop a Smart grid	X			X	X	X	
Renewable Energy							
Solar thermal	X	X	X	X	X	X	
Solar electric	X	X	X	X	X	X	
Geothermal	X	X	X	X	X	X	
District heating	X	X	X	X	X	X	
Solar thermal storage for heating	X	X	X	X	X	X	
Wind power	X	X	X	X	X	X	
Subscription to Renewable Energy				X			

b) Incentives

Federal Tax Credits

The federal government currently has the following programs and other programs may be available.

• A $2,000 tax credit to homebuilders for homes that achieve 50% energy savings for heating