



147TH STREET  
STATION AREA  
SUSTAINABILITY  
MASTER PLAN



# Acknowledgements

## **Humphrey School of Public Affairs** Master of Urban and Regional Planning Capstone Project

*in cooperation with*

## **The City of Apple Valley, Minnesota**



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Henry Stroud, Justin Svingen, Jill Townley, and Katie Young  
with the support of Assistant Professor Carissa Schively  
Slotterback, PhD

### ***Special Thanks to City of Apple Valley Staff:***

Bruce Nordquist -- Community Development Director  
Tom Lovelace -- City Planner  
Kathy Bodmer -- Associate City Planner  
Margaret Dykes -- Associate City Planner  
Barbara Wolff -- Department Assistant

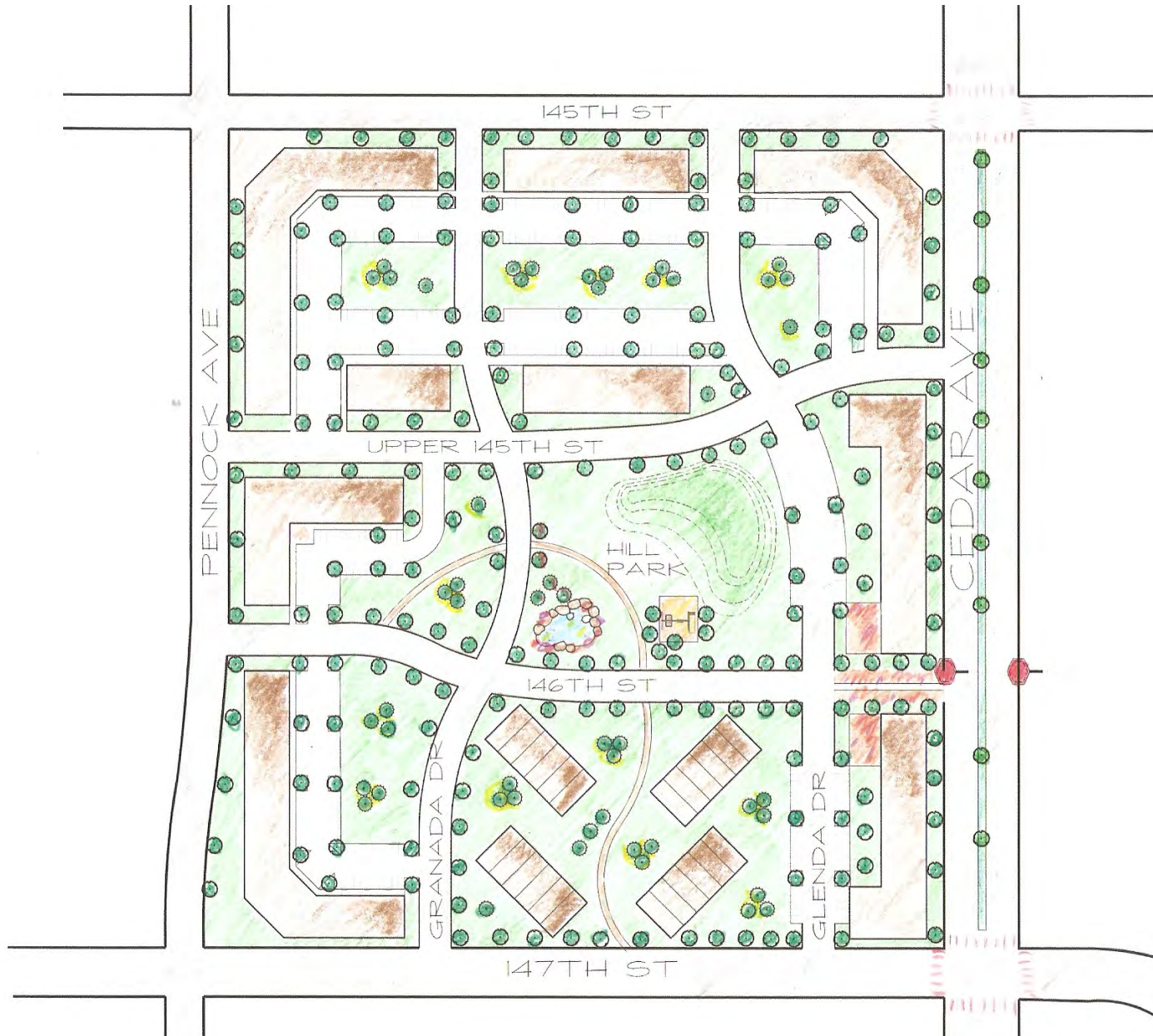


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# 147<sup>TH</sup> STREET STATION AREA SUSTAINABILITY MASTER PLAN



# Executive Summary

## BACKGROUND

The City of Apple Valley is planning for change along the Cedar Avenue corridor with the introduction of the State of Minnesota's first Bus Rapid Transit (BRT) system. BRT is an enhanced bus system that combines the advantages often associated with light rail transit, such as a dedicated right of way and frequent, reliable service, with the route flexibility and smaller up front capital investments associated with traditional bus systems.

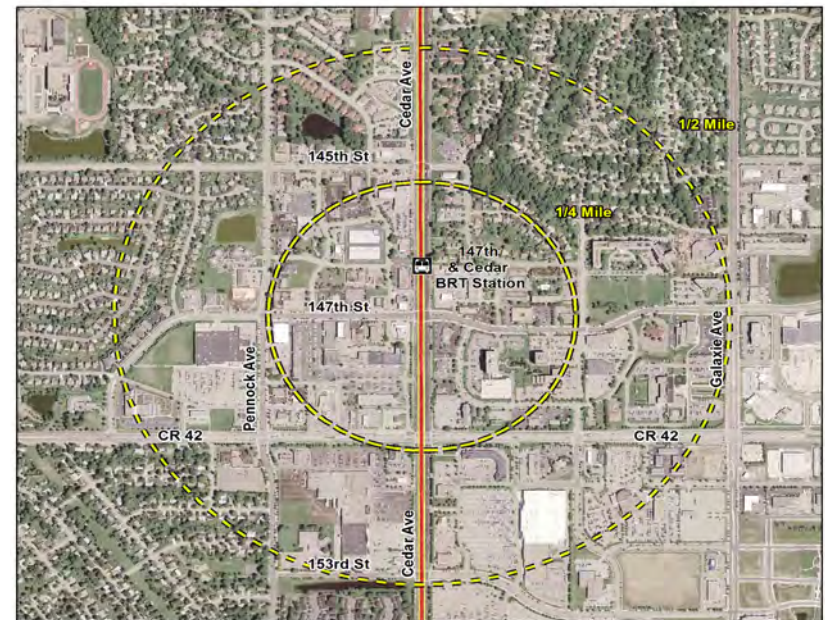
Beginning in 2012, the 16-mile BRT line will run from Lakeville, with stops in Apple Valley and Eagan, to an existing transportation hub located at the Mall of America (MOA) in Bloomington. At the transportation hub, riders can access local bus service and light rail transit, providing connections between Dakota County and regional destinations such as Minneapolis and St. Paul.

For Apple Valley, this is an opportunity to create transit supportive development in a vibrant and economically viable location that will help grow the community in a sustainable manor, enhancing the already high quality of life that residents enjoy.

## STATION AREA CONTEXT

This plan focuses specifically on the walk-up station that will be located just north of the intersection of 147th Street and Cedar Avenue. The Station Area is defined as a ½ mile radius, with its origin at the intersection of 147th Street and Cedar Avenue.

Station Area Context



## PURPOSE OF THE PLAN

The 147th Street Station Area Sustainability Master Plan articulates near and long term goals, and suggestions for future development. The plan provides members of the community, city staff, and elected officials, with a set of recommendations, including land use patterns, a circulation concept, and specific policies, which will ensure that redevelopment occurring within the Station Area supports the creation of a sustainable place.

The City of Apple Valley is embracing the unprecedented opportunity for sustainable development created by the introduction of the Cedar Avenue BRT.

## SUSTAINABILITY STATEMENT

The most commonly used definition of sustainable development is credited to the Brundtland Commission and reads; we must “... meet the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations 1987). Common descriptions of sustainability incorporate a balancing of the “three E’s” of sustainability, environment, economics and equity.

Building upon the “three E’s” concept, this plan identifies four systems of sustainability: Economics, Livability, Social Equity, and the Natural Environment. These four systems comprise the Sustainability Prism. While each system can be viewed independently, they are intrinsically linked; factors that affect one system ultimately influence each of the other systems.

## PLANNING PROCESS

The 147th Street Station Area Sustainability Master Plan is informed by an extensive review of existing station area and sustainability plans, existing plans relevant to the Station Area, as well as interviews with Apple Valley and Dakota County staff. These processes provided insight to ensure that the recommendations contained herein are meaningful and will lead to a successful implementation of the sustainability prism.

Many of the underlying principles in this plan are modeled after the tenets of Transit Oriented Development (TOD). Recent patterns of suburban development emphasized the efficient movement of the personal automobile. Such patterns have resulted in a built environment that “sprawls” into the countryside, impacting natural resources, increasing infrastructure costs, and disconnecting people from their community. Previous to this trend, development patterns were focused at the human scale, designed to encourage interaction, to create a landscape easily traversed by foot, with easy access to public transportation. TOD is a method to transform the modern day built environment, into one that more closely resembles that of years past.

## PLAN CONCEPT

Current conditions within the Station Area present a number of opportunities and constraints for future development. From the opportunities and constraints a Station Area vision and six goals were established. The six goals are:

1. Balance the needs of new development and existing uses
2. Capitalize on the Station Area's proximity to downtown Apple Valley
3. Create and reinforce connections between new and existing neighborhoods, goods and services, and the 147th Street Station
4. Develop in a manner that displays a clear commitment to environmental protection
5. Ensure equal opportunities for all residents and visitors to the Station Area
6. Grow the Station Area as an economic center for Apple Valley

It is understood that redevelopment will take time and may take decades before the full vision for the 147th Street Station is realized.

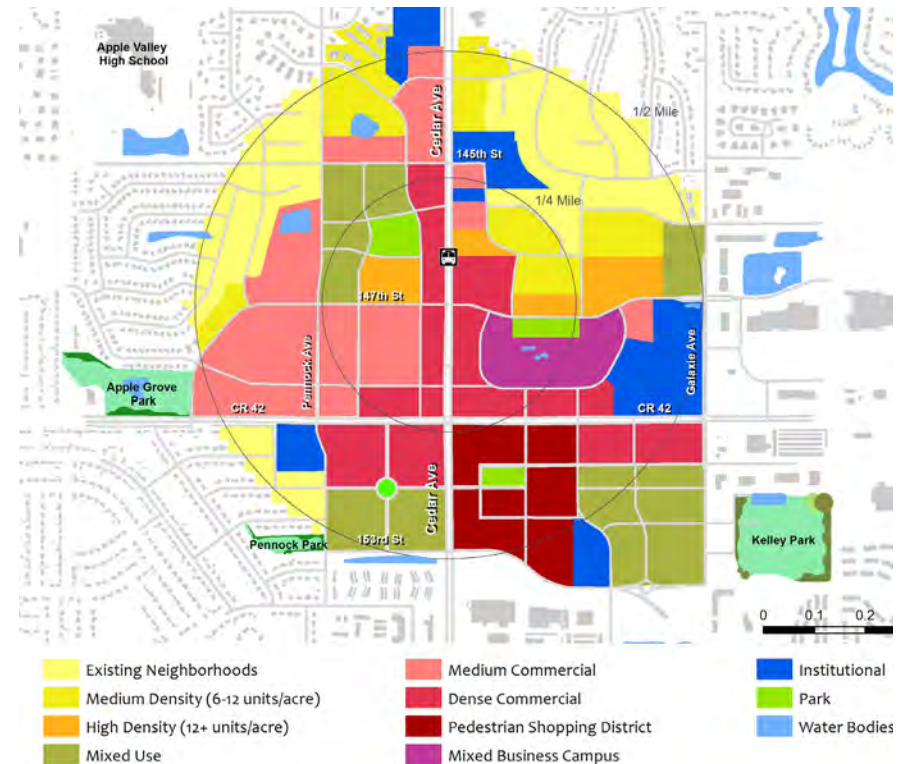
### PROPOSED LAND USE CONCEPT

The plan concept is focused on the long-term redevelopment of the Station Area in order to create a sustainable, transit oriented place. This requires a transition over time, through public and private investment,

The proposed land use concept was formulated after conducting an inventory of needed land uses within the Station Area, an evaluation of the street framework, and assigning urban design "themes" where appropriate.

It was found that there are three primary land use needs within the 147th Street Station Area: commercial retail, high density housing, green space.

Key elements of this plan include: The intersection of Cedar Avenue and County Road 42 are major commercial corridors and should remain commercial in use; medium to high-density housing should be buffered from the commercial uses and located near the transit stop; parks and open space are located in the middle of blocks; new interior roads should be created to improve visual connections; and identification of priority pedestrian and bike connections.



## SUSTAINABILITY SYSTEMS

The four systems of the Sustainability Prism provide more detailed rationale, description and recommendations concerning the 147th Street Station Area Proposed Land Use Plan. Additionally, these sections explain how the Station Area can evolve into an economically-prosperous, livable, equitable, and environmentally-friendly area.

### ECONOMICS

Economic sustainability is about prosperity, both today and tomorrow. In order to remain functional, cities, residents, and businesses must be able to balance their costs and revenues to sustain their “operations.” If they are able to do so, they will be able to make important contributions to society such as providing jobs, training skilled laborers, ensuring the community’s ability to pay and participate in commerce, and supporting community services. Individuals and organizations that acknowledge and embrace economic sustainability as their long-term goal may be best equipped to prosper, both for their own benefit, and for the well-being of society as a whole.

Economic Sustainability Principles, Objectives and Recommendations are explained in the corresponding chapter of the document.

### LIVABILITY

For years development patterns around the country have focused on the efficient movement of the automobile, often at the expense

of personal interaction with the built environment. But it is this personal interaction with the built environment that makes a place special. The unique aspects of a place and the ease at which one traverses the landscape contribute to what makes an area an attractive place to live. Thus, the term livability encompasses those qualities of the natural, social and built environment that contribute to a sense of place.

Livability Sustainability Principles, Objectives and Recommendations are explained in the corresponding chapter of the document.

### SOCIAL EQUITY

Social equity can be described as equal access to resources and an equal opportunity to partake in public processes. This can be accomplished through supporting diversity, meeting the basic needs of all residents, and investing in social and human capital. This portion of the sustainability prism is often seen as the soft infrastructure that promotes community and ensures a high quality of life for all members of the community.

Social Equity Sustainability Principles, Objectives and Recommendations are explained in the corresponding chapter of the document.



## NATURAL ENVIRONMENT

Environmental sustainability is achieved through planning by encouraging practices and patterns of development that limit the loss of natural lands, and protect and enhance the natural systems that exist within our communities. While our communities are becoming increasingly urban, we continue to depend on the benefits Nature provides for our survival. Water and air filtration, a rich diversity of plants and wildlife, and climate stabilization, are examples of the numerous services Nature provides.

Natural Environment Sustainability Principles, Objectives and Recommendations are explained in the corresponding chapter of the document.



# CHAPTER

*we must "...meet the needs of the present without compromising the ability of future generations to meet their own needs."*  
-United Nations Brundtland Commission

# Introduction

## BACKGROUND

The City of Apple Valley is planning for change along the Cedar Avenue corridor with the introduction of the State of Minnesota's first Bus Rapid Transit (BRT) system. BRT is an enhanced bus system that combines the advantages often associated with light rail transit, such as a dedicated right of way and frequent, reliable service, with the route flexibility and smaller up front capital investments associated with traditional bus systems.

Beginning in 2012, the 16-mile BRT line will run from Lakeville, with stops in Apple Valley and Eagan, to an existing transportation hub located at the Mall of America (MOA) in Bloomington. At the transportation hub, riders can access local bus service and light rail transit, providing connections between Dakota County and regional destinations such as Minneapolis and St. Paul. The Cedar BRT will operate in a dedicated lane, ensuring swift movement between stops.

Cedar Avenue is one of two major thoroughfares that bisect the City of Apple Valley. The introduction of the BRT line along Cedar Avenue has the potential to usher in a new wave of redevelopment and investment throughout the entire Cedar corridor. For Apple Valley, this is an opportunity to create transit supportive development in a vibrant and economically viable location that will help grow the community in a sustainable manor, enhancing the already high quality of life that residents enjoy.

The Cedar Avenue BRT is part of the Metropolitan Council's 2030 Transitway System Plan. This plan identifies key transportation corridors throughout the region which will receive intensive transit investment over the coming years. The development of these transitways will provide an unparalleled level of mobility for the Twin Cities Region and has the potential to fundamentally alter growth patterns.

## APPLE VALLEY AT A GLANCE

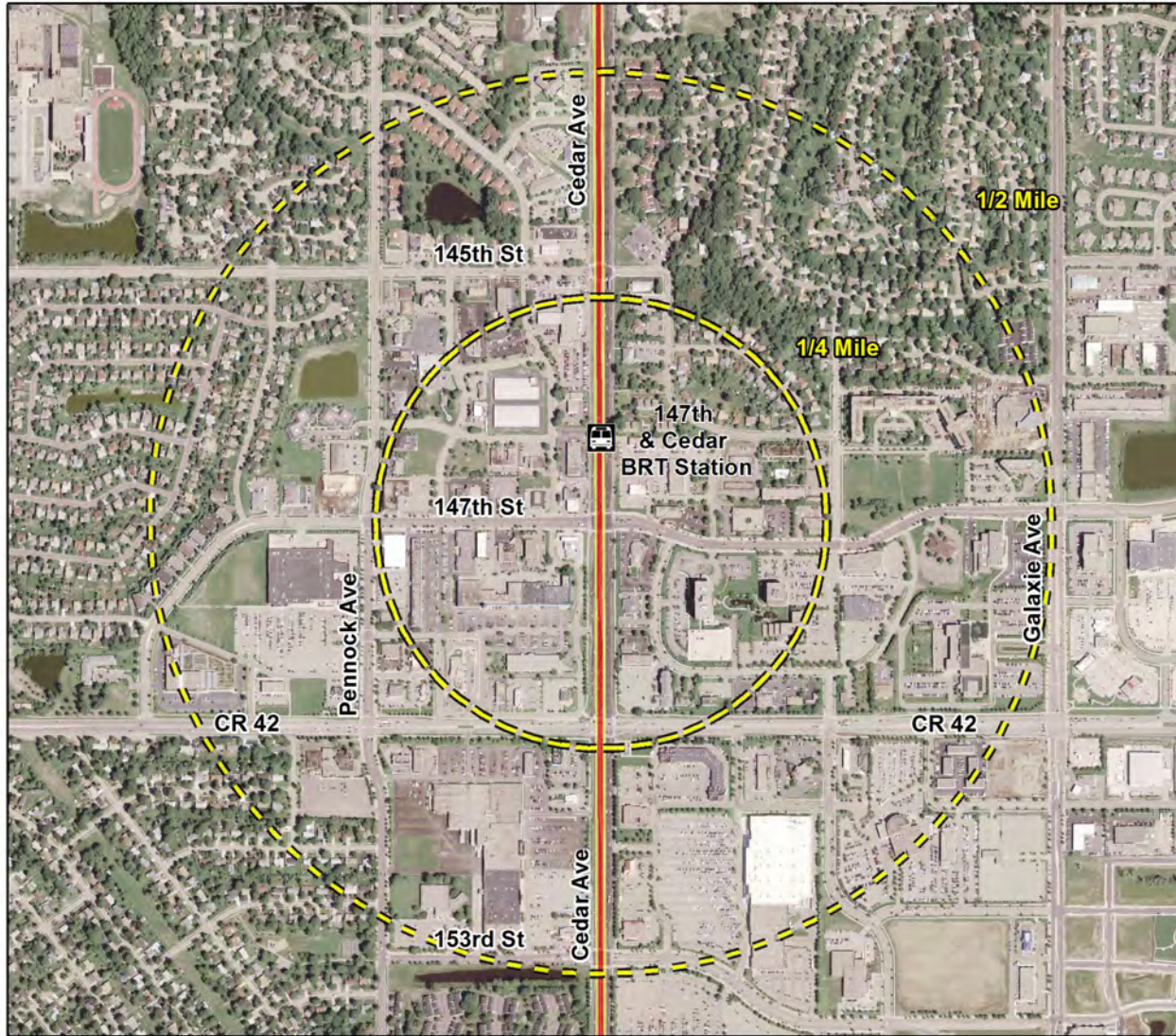
Apple Valley is a suburb of the Twin Cities located in northwestern Dakota County. Apple Valley began as an agricultural community, but has since transformed into a bustling suburb; as of 2010, it had 49,084 residents making it the 18th most populous city in the state. Apple Valley is located approximately 20 miles south of downtown Minneapolis and 12.5 miles west of the Mississippi River.



Apple Valley has seen dramatic population increases within the last 20 years, growing by 31% between 1990 and 2000, and by 10% between 2000 and 2010. In this time, the community has become more diverse with large increases in African-American, Asian, and Hispanic, residents. Like many American cities, the average overall age of its residents has increased as the 'baby boomers' move into retirement.



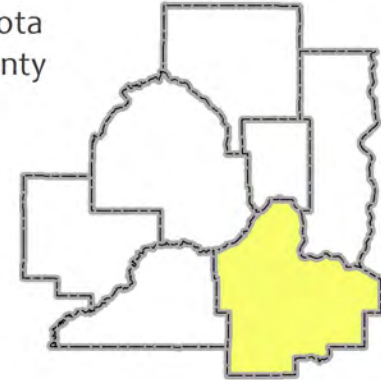
# 147<sup>TH</sup> STREET STATION AREA SUSTAINABILITY MASTER PLAN

## MAP 1. STATION AREA CONTEXT

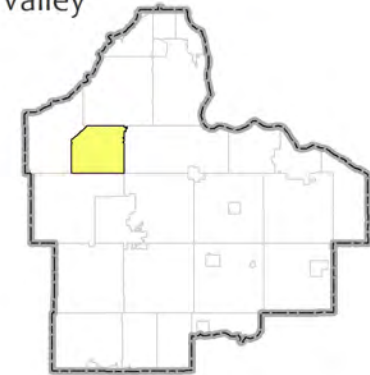


 Proposed Station       Cedar BRT

Dakota  
County



Apple Valley



Station Area

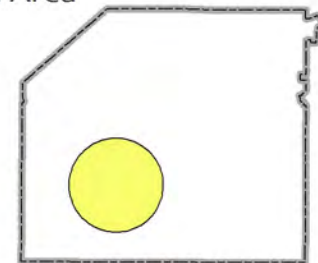


TABLE 1. APPLE VALLEY DEMOGRAPHICS

	1990		2000		2010	
<b>Population</b>	34,598		45,527		49,084	
White	33,567	97.0%	41,798	91.8%	41,121	83.8%
African American	291	0.8%	870	1.9%	2,689	5.5%
Asian	634	1.8%	1,542	3.4%	2,611	5.3%
Hispanic	63	0.2%	912	2.0%	2,427	4.9%
<b>Age</b>						
Under 5 yrs	4,006	11.6%	3,286	7.2%	NA	NA
5-18 yrs	8,033	23.2%	10,243	22.5%	NA	NA
18-65 yrs	21,668	62.6%	29,492	64.8%	NA	NA
65 yrs +	891	2.6%	2,506	5.5%	NA	NA
<b>Household Size</b>	3.1		2.8		2.6	
<b>Housing Units</b>	11,538		16,536		19,600	

## STATION AREA CONTEXT

This plan focuses specifically on the walk-up station that will be located just north of the intersection of 147th Street and Cedar Avenue. The Station Area is defined as a ½ mile radius, with its origin at the intersection of 147th Street and Cedar Avenue.

The 147th Street Station Area is comprised of a mix of residential, commercial, and institutional, land uses. Residential use is concentrated in the northern portion of the Station Area and is split, in terms of area, between single family and multi-family dwellings. The ratio of single family dwelling to multi-unit dwellings is 2.6:1 (this ratio includes single family homes zoned as PD – Planned Development).

Commercial development is concentrated along Cedar Avenue, 147th Street, and County Road 42. These developments are characterized by generally low building heights, large asphalt parking lots, and minimal landscaping. Exceptions to the low

building heights include the Wings Financial Building, as well as other buildings along Glazier Avenue and 147th Street West.

The 147th Street Station Area is home to two important institutional buildings, Apple Valley City Hall, and the Dakota County Government Center, which houses the Dakota County Galaxie Library. These buildings are located on the southern edge of 147th Street in the eastern portion of the Station Area.

TABLE 2. STATION AREA LAND USE

Land Use	Area (acres)	% of Total
General Business	19.43	4.27
Retail Business	87.06	19.13
Limited Business	26.86	5.90
<b>Residential</b>		
Single Family Homes (>11,000 Sq. Ft)	68.34	15.02
3-6 Units/Acre	0.22	0.05
6-8 Units/Acre	8.95	1.97
6-10 Units/Acre	2.34	0.51
6-12 Units/Acre	19.11	4.20
12-24 Units/Acre	5.49	1.21
Institutional	39.58	8.70
Planned Development	177.68	39.05

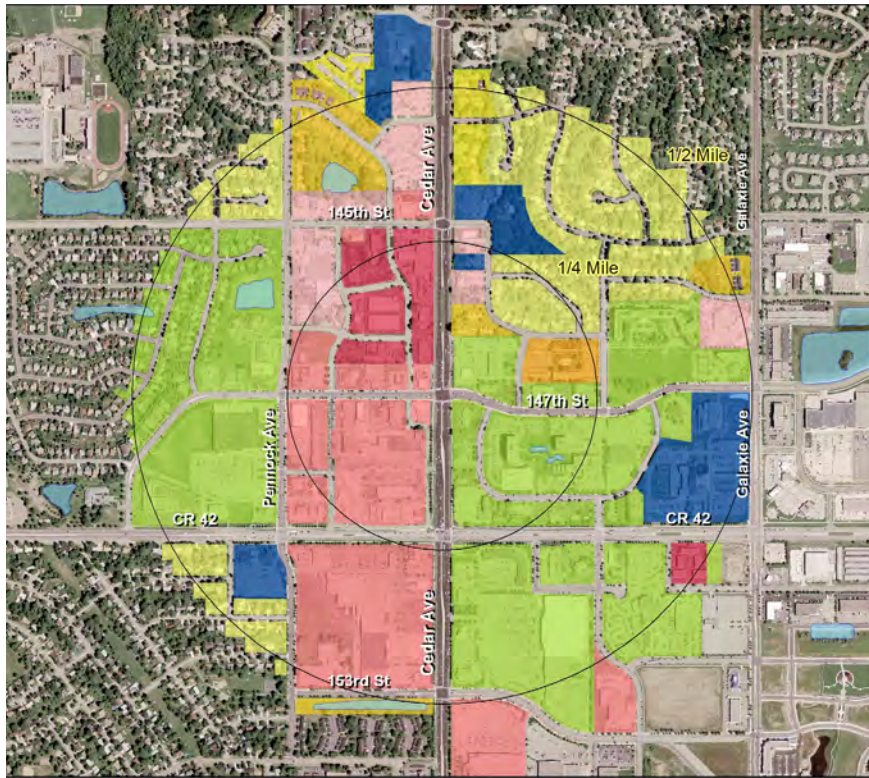
The 147th Street Station Area includes a variety of County State Aid Highways, collector, and local streets. The stop itself is adjacent to Apple Valley’s busiest intersection—north-southbound Cedar Avenue and east-westbound CR42. In 2007, this intersection experienced a volume of approximately 143,000 vehicles per day. That number is expected to increase by 37 percent by 2030, up to approximately 195,190 vehicles per day.<sup>1</sup>













Approximately 2 miles north of the Station Area, Cedar Avenue transitions from a three lane county road with a speed limit of 45 miles per hour (mph), into a two lane divided state highway



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MAP 2. EXISTING STATION AREA LAND USE



 Water Bodies	 6-10 Units/Acre	 Retail Business
 Single Family 11,000 Sq. Ft.	 6-12 Units/Acre	 General Business
 3-6 Units/Acre	 12-24 Units/Acre	 Institutional
 6-8 Units/Acre	 Limited Business	 Planned Development

with a speed limit of 65 mph. Once it passes Highway 35E, Cedar Avenue transitions into a local street as it approaches downtown Minneapolis.

Current public transit service in the City is provided by the Minnesota Valley Transit Authority (MVTA), an independent transportation agency serving the southern suburbs in Dakota County. Specifically, the MVTA serves Apple Valley with four local cross-town routes connecting to the cities of Eagan, Rosemount, Lakeville, and Burnsville. In addition, there are four peak-hour-only express bus routes into Minneapolis and Saint Paul. Express Route 477, which connects Apple Valley to downtown Minneapolis, has the highest ridership, with over 361,000 boardings per year. Second to that is the Burnsville-Apple Valley-Mall of America (MOA) Route 442, with over 130,000 boardings per year.

The 147th Street Station Area is currently well serviced by sidewalks allowing for pedestrian mobility; however, gaps in the network exist. Considerable challenges face pedestrian mobility in the area including high traffic volume, busy intersections and lengthy pedestrian crosswalks.

While bicycles are permitted on streets and shoulders, there are no designated bike lanes in the study area. Instead, the 147th Street Station Area is served by 4.3 miles of shared pedestrian and bike trails.



## THE RING ROUTE

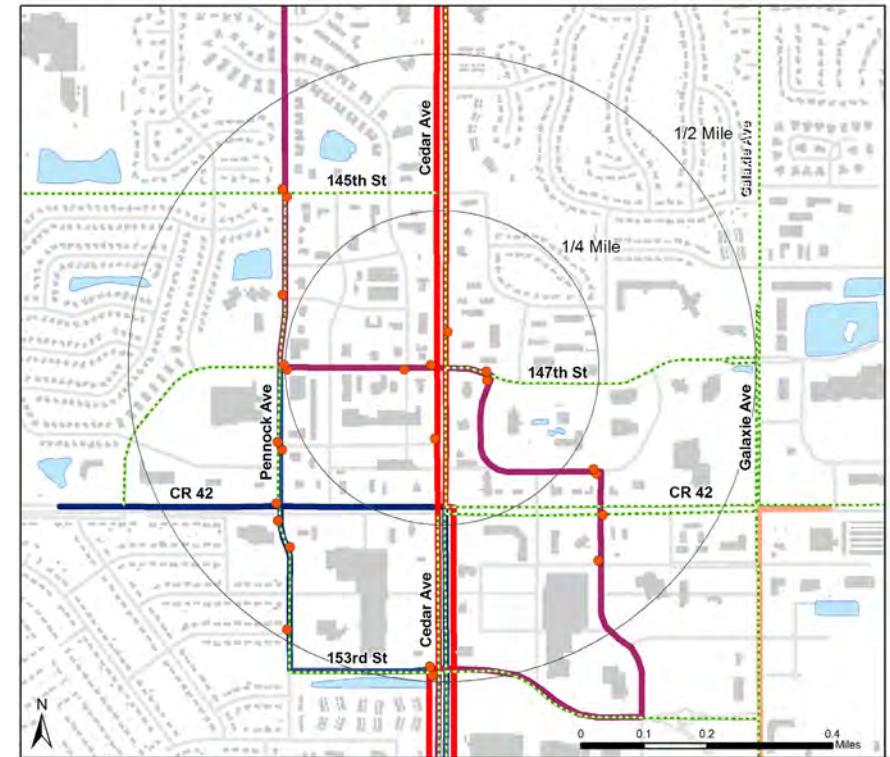
Apple Valley’s downtown central business district encompasses by what is known locally as the Ring Route. In the 1970s, early City planners established the basic framework for the Ring Route, a 4-laneroad that is adorned with colorful streetlamps, a ribbon of trees, and enhanced pedestrian amenities. The purpose of the Ring Route is to divert traffic off Cedar Avenue and County Road 42 onto collector streets such as 147th Street and 153rd Street. Its boundaries include 147th Street to the north, Galaxie Avenue to the east, 153rd Street to the south, and Pennock Avenue to the west.

The Ring Route, in combination with the intersection of Cedar Avenue and County Road 42, was designed to create four distinct quadrants, each providing unique amenities: commerce, entertainment, investment, and services. The goal of the Ring Route was to create a “sense of place” and help define downtown Apple Valley as a unique destination.



Apple Valley Development Concept, circa 1970

## MAP 3. EXISTING STATION AREA TRANSPORTATION



## PURPOSE OF THE PLAN

The 147th Street Station Area Sustainability Master Plan articulates near and long term goals, and suggestions for future development. The plan provides members of the community, city staff, and elected officials, with a set of recommendations, including land use patterns, a circulation concept, and specific policies, which will ensure that redevelopment occurring within the Station Area supports the creation of a sustainable place.

As the Metropolitan Council's 2030 Tranistway Plan is implemented, careful attention needs to be paid to the coordination of land uses, City policies, and redevelopment, occurring within these corridors.

The City of Apple Valley is embracing the unprecedented opportunity for sustainable development created by the introduction of the Cedar Avenue BRT.

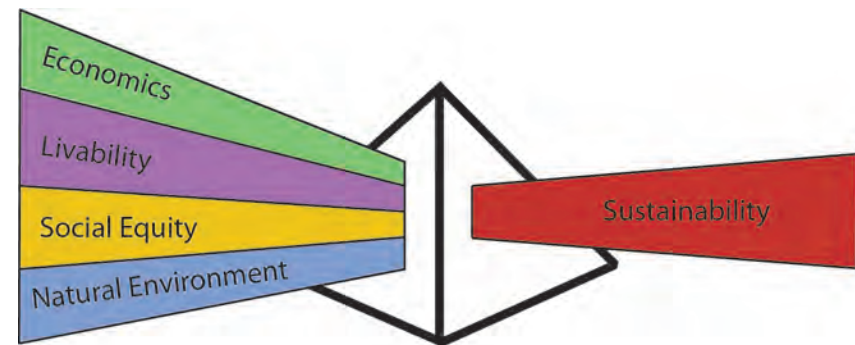
Apple Valley lists 'Sustainable' as one of the 11 keys to the future of the city in The 2030 Apple Valley Comprehensive Plan:

*Apple Valley is a place with outstanding quality of life. We wisely use the natural, economic, and human resources needed to continue this quality of life. We seek to provide the resources required to maintain and enhance the quality of life for future generations. We plan our community in ways that sustain the clean water and air that are essential elements of the quality of life in Apple Valley. In doing so, Apple Valley aspires to be sustainable. (pg 2)*

## SUSTAINABILITY STATEMENT

The most commonly used definition of sustainable development is credited to the Brundtland Commission and reads, we must "... meet the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations 1987). Thus, sustainability in general can be seen as living in a manner today that will not negatively impact the manner in which future generations live. Common descriptions of sustainability incorporate a balancing of the "three E's" of sustainability, environment, economics and equity.

Building upon the "three E's" concept, this plan identifies four systems of sustainability: Economics, Livability, Social Equity, and the Natural Environment. These four systems comprise the Sustainability Prism. While each system can be viewed independently, similar to the separation of sunlight into individual colors as it passes through a prism, they are intrinsically linked; factors that affect one system ultimately influence each of the other systems.



The Sustainability Prism

**ECONOMICS** is about prosperity, both today and tomorrow. When cities, residents, and businesses, are able to sustain their operations, they are able to make meaningful contributions to society, such as providing jobs, training skilled laborers, and ensuring the community's ability to pay and participate in commerce.

**LIVABILITY** encompasses those qualities of the natural, social, and built environments, which contribute to a sense of place. Personal interaction with these environments is what makes a place special. The unique aspects of a place, its nooks and crannies, its flavor, the ease at which one traverses the landscape, all contribute to what makes an area an attractive place to live. It is what makes a place livable.

**SOCIAL EQUITY** can be described as the ability of all residents to have equal access to resources and an equal opportunity to partake in public life. Social equity is accomplished through supporting diversity, meeting the basic needs of all residents, and investing in social and human capital. It is often seen as the soft infrastructure that creates a community, providing for and ensuring a high quality of life for all community members.

**THE NATURAL ENVIRONMENT** is concerned with the processes that support life on Earth. These processes provide the essential components of well being: clean air and water, abundant natural resources, food, and enjoyment of the natural world. Sustainable cities ensure growth and economic development in concert with the protection and enhancement of natural systems.

## PLANNING PROCESS

The 147th Street Station Area Sustainability Master Plan is informed by an extensive review of existing station area and sustainability plans, existing plans relevant to the Station Area, as well as interviews with Apple Valley and Dakota County staff. These processes provided insight to ensure that the recommendations contained herein are meaningful and will lead to a successful implementation of the sustainability prism.

*The Apple Valley 2030 Comprehensive Plan* (2009) guides the growth and development of Apple Valley. The plan guides development and uses of land, housing, economic development, parks, transportation and utilities. A series of 11 keys are identified to serve as a guide to future development and growth in the city.

### 11 KEYS OF APPLE VALLEY

1. Sustainable
2. Livable
3. Business oriented
4. Employment focused
5. Safe
6. Play and Preserve
7. Healthy and active
8. Accessible
9. Successful downtown
10. Learning
11. Service



City of Apple Valley 2030 Comprehensive Plan

*Cedar Avenue BRT Plan* (2008) provides guidance and recommendations on how redevelopment and infrastructure improvements related to the BRT system should evolve, as well as design principles that will support Transit Oriented Development.

*Bike Walk Apple Valley* (2010) provides a foundation for improvements to the sidewalk and trail system of Apple Valley. Recognizing the benefits a complete network of sidewalks and trails provide for the community, areas currently underserved by the existing system are identified and improvements to and creation of sidewalk and trail infrastructure are recommended.

*The Downtown Development Design Guidelines* (1990) provides direction for design improvements for the downtown area bounded roughly by 145th Street on the north, Galaxie Avenue on the east, 153rd Street on the south and, Pennock Avenue to the west. The guidelines inform design elements such as streetscape enhancements, building treatments and lighting. The purpose of these guidelines is to create a destination within Apple Valley that is centered on retail, office, service, government and entertainment providers.

## TRANSIT ORIENTED DEVELOPMENT

Many of the underlying principles in this plan are modeled after the tenets of Transit Oriented Development (TOD). Recent patterns of suburban development emphasized the efficient movement of the personal automobile. Such patterns have resulted in a built environment that “sprawls” into the countryside, impacting natural resources, increasing infrastructure costs, and disconnecting people from their community. Previous to this trend, development patterns were focused at the human scale, designed to encourage interaction, to create a landscape easily traversed by foot, with easy access to public transportation. TOD is a method to transform the modern day built environment, into one that more closely resembles that of years past.



Town Square Housing and Transit Stop, Snelling Avenue, Falcon Heights, MN

From reduced traffic congestion to a healthier environment, the compact, mixed-use, human scale built environment of TOD provides many benefits. The Transit Oriented Land Use Planning and Development Evaluation identifies the following benefits TOD will provide:

1. Transit Oriented Development supports increased ridership, which supports a stronger, less subsidized transit system.
2. Studies have shown that fixed transitway systems can increase property values, which in turn can facilitate redevelopment of underutilized sites or development infill.
3. Higher density housing opportunities around transit stops provide opportunities for more sustainable life styles that are less dependent on the automobile.
4. The same higher density housing opportunities can offer more affordable housing choices, helping the City of Apple Valley achieve regional housing and affordability goals.
5. Transit Oriented Development patterns are of a higher intensity and can generate greater tax revenues while requiring the same or lesser infrastructure systems than traditional suburban development patterns.
6. A transit corridor connecting Apple Valley to other planned fixed transitways in the Metro area provides a connection to a regional labor force and offers excellent corporate business sites in Apple Valley.
7. The higher density nature of TOD can result in more people living and working in or near downtown Apple Valley. More residents and employees support the retail needs and desired uses and attractions that will make Downtown Apple Valley a successful suburban downtown.
8. Greater intensity of redevelopment around transit stops that are connected to the “ring road” framing downtown Apple Valley present opportunities for other amenities such as a circulator system (trolley, min-bus, streetcar).
9. A successful fixed transit system connecting Apple Valley with the downtowns of St. Paul and Minneapolis and other regional job centers offers Apple Valley residents an alternative transportation choice, reducing the stresses of fighting traffic, lowering commuter costs and enhancing quality of life.



# CHAPTER



*“Vision without action is a dream. Action without vision is simply passing the time. Action with Vision is making a positive difference.”*

*-Joel Barker*

# Vision & Master Plan

## OPPORTUNITIES AND CONSTRAINTS

Current conditions within the Station Area present a number of opportunities and constraints for future development. These include physical, regulatory, and economic conditions that will influence implementation of this plan.

### OPPORTUNITIES

- With the addition of the BRT, there is an opportunity to create transit oriented development within the Station Area.
- The 147th Street Station is located within downtown Apple Valley, a center of activity and commerce.
- The Station Area is well served by retail, government, and business, services. These services are attractive and vital to the success of the BRT and transit oriented development
- There are a number of vacant or underutilized lands that could be more fully developed

### CONSTRAINTS

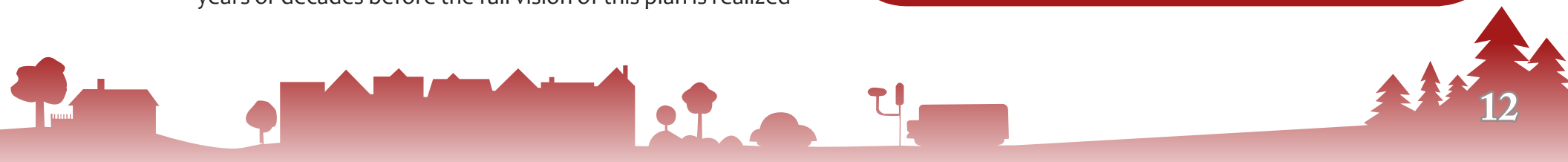
- Cedar Avenue and County Road 42 are major barriers to pedestrian activity
- Much of the Station Area is auto dominated and does not support pedestrian or non-motorized transit.
- Redevelopment will happen slowly and it may take several years or decades before the full vision of this plan is realized

## VISION AND GOALS

As the 147th Street Station Area develops over the coming decades, it will become a sustainable, transit supportive, urban center. Residents and visitors will be drawn to this location because of a rich mix of amenities, easy access to public transportation, and a strong sense of place.

THIS VISION PROVIDES THE BASIS FOR 6 PRIMARY GOALS FOR THE STATION AREA:

1. Balance the needs of new development and existing uses
2. Capitalize on the Station Area's proximity to downtown Apple Valley
3. Create and reinforce connections between new and existing neighborhoods, goods and services, and the 147th Street Station
4. Develop in a manner that displays a clear commitment to environmental protection
5. Ensure equal opportunities for all residents and visitors to the Station Area
6. Grow the Station Area as an economic center for Apple Valley



## PROPOSED LAND USE CONCEPT

The plan concept is focused on the long term redevelopment of the Station Area in order to create a sustainable, transit oriented place. This requires a transition over time, through public and private investment. The proposed land use concept was formulated after conducting an inventory of needed land uses within the Station Area, an evaluation of the street framework, and assigning urban design “themes” to each quadrant of the downtown area.

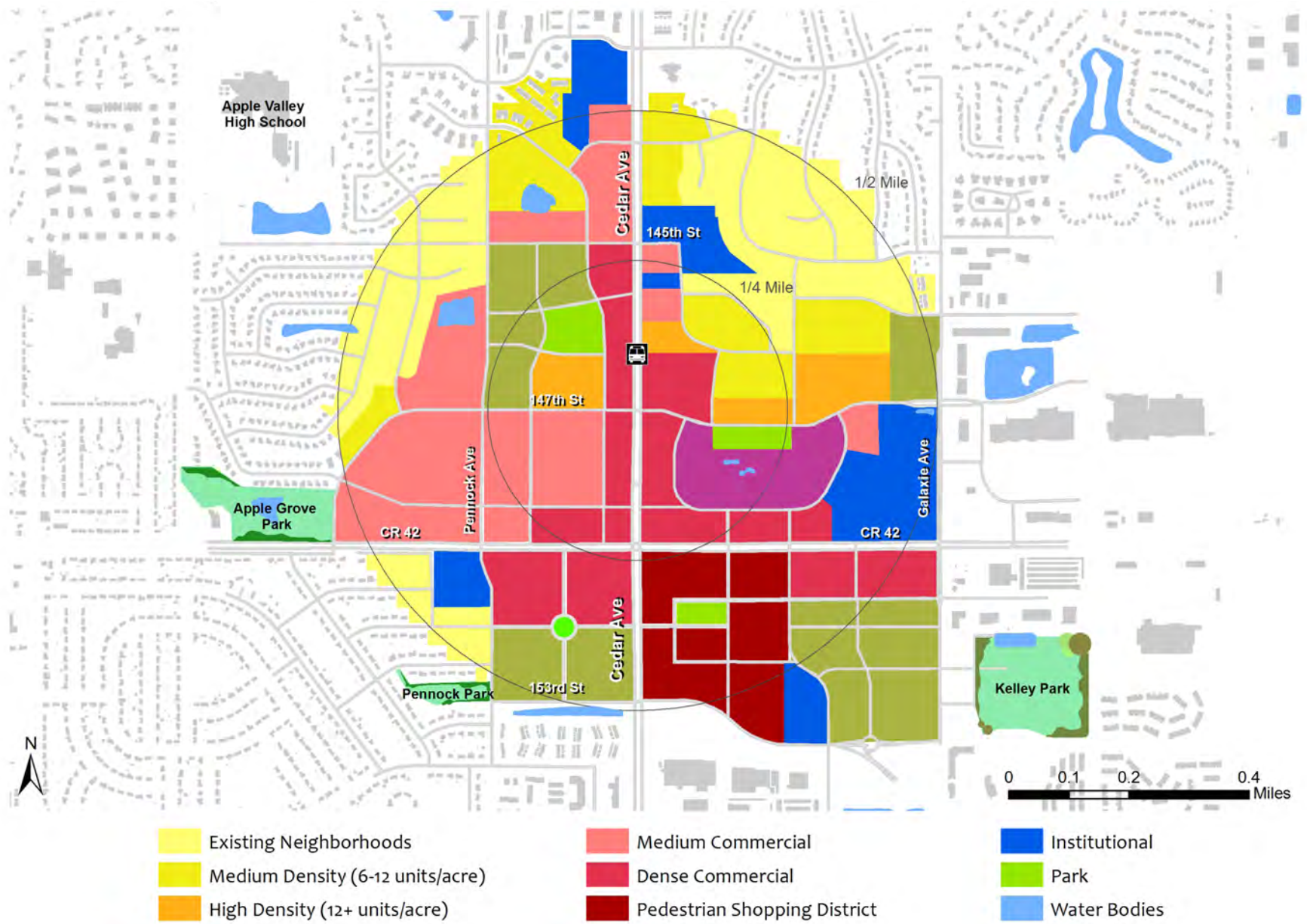
It was found that there are three primary land use needs within the 147th Street Station Area:

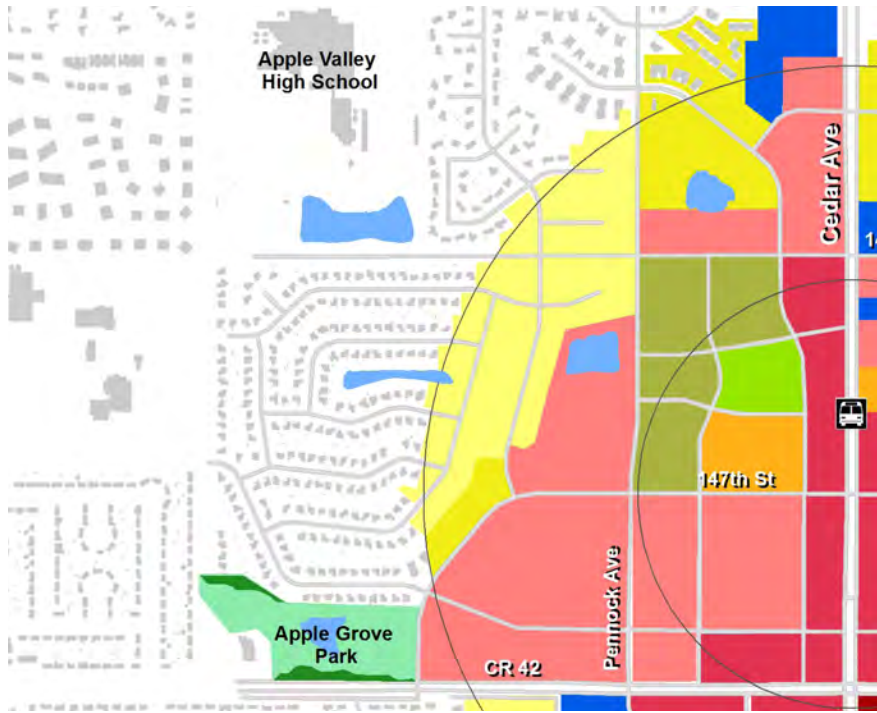
1. As indicated in The Comprehensive Plan, because of its proximity to downtown, the Station Area needs to include commerce; in particular, commercial retail.
2. High density housing needs to be located as close as possible to the transit stop; specifically, densities of 12 dwelling units per acre or more. High density residential land uses will allow the City to apply for Transit Improvement Area (TIA) designation, which in the future will hopefully allow them to obtain a Minnesota Department of Employment and Economic Development (DEED) loan to make capital investments around the Station Area.
3. The Station Area is deficient in green space. Additional green space will not only boost property values around the Station Area, but can serve as a catalyst for redevelopment by the private sector, create destinations for residents to gather, as well as provide a much needed location for managing stormwater runoff.

## KEY ELEMENTS OF THIS PLAN INCLUDE:

- Commercial corridors line the main transportation thoroughfares of Cedar Avenue and County Road 42. Given the noise and traffic speeds of these two streets, it was determined that housing land uses, such as mixed-use and medium- to-high density, should be placed directly adjacent to the frontage-oriented commercial uses.
- A large portion of the housing land uses are located in close proximity to the transit stop, with additional housing positioned on the southern edge of the Station Area, where residents can take advantage of both the 147th Street redevelopment, as well as redevelopment occurring at the 155th Street Park-and-Ride transit stop.
- Parks and open spaces are located in the middle of blocks. This placement allows a greater number of buildings to front these amenities and benefit from the additional views and increased land values they provide.
- To improve both non-vehicular and visual connections between destinations, new interior roads were created based on the grid street pattern.
- Identifying priority pedestrian / bicycle connections

MAP 4. PROPOSED STATION AREA LAND USE

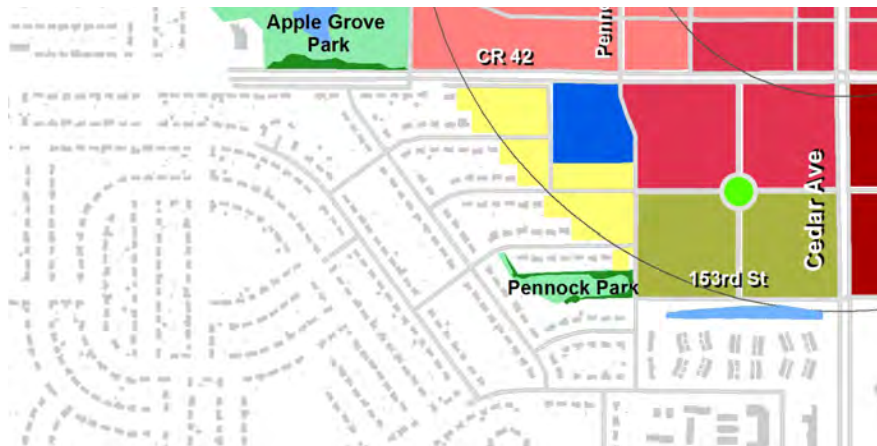




## DOWNTOWN QUADRANTS

### NORTHWEST

The northwest quadrant currently has many large trees, low amounts of traffic, and a fairly well-established interior street grid pattern. It is also in close proximity to Apple Valley High School, which lies approximately  $\frac{1}{4}$  mile northwest of the Station Area. With small additions, such as a road and bicycle/pedestrian routes, this quadrant is perfectly suited for residential and mixed-use development.



### SOUTHWEST

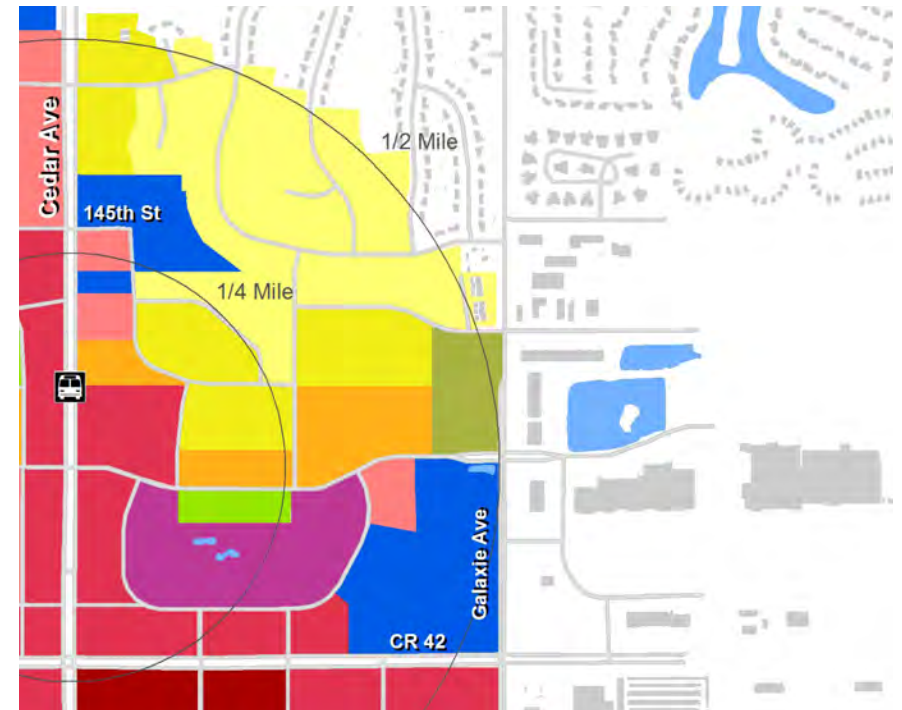
The southwest quadrant features an interior park encircled by a round-about. The round-about would be perfect for a public art structure. Buildings would be situated along the periphery of the quadrant, and vehicular access would be via a round-about. The parcels are still large enough to hold large retailers and full vehicular access is maintained. The creation of two mixed-use areas will provide housing options, while still allow for large retail to exist.



### NORTHEAST

The northeast quadrant features a central mixed business campus. The existing Wings Financial and Merchant Bank buildings are examples of the intended type of development. Taller, denser office buildings will create a opportunities for more businesses to locate close to downtown.

The addition of a central park, located on the interior of Glazier Avenue, connects to the existing landscaping around Wings and Merchant Bank. This newly created open space provides benefits to new office developments, as well as the existing nearby senior housing and residential developments.



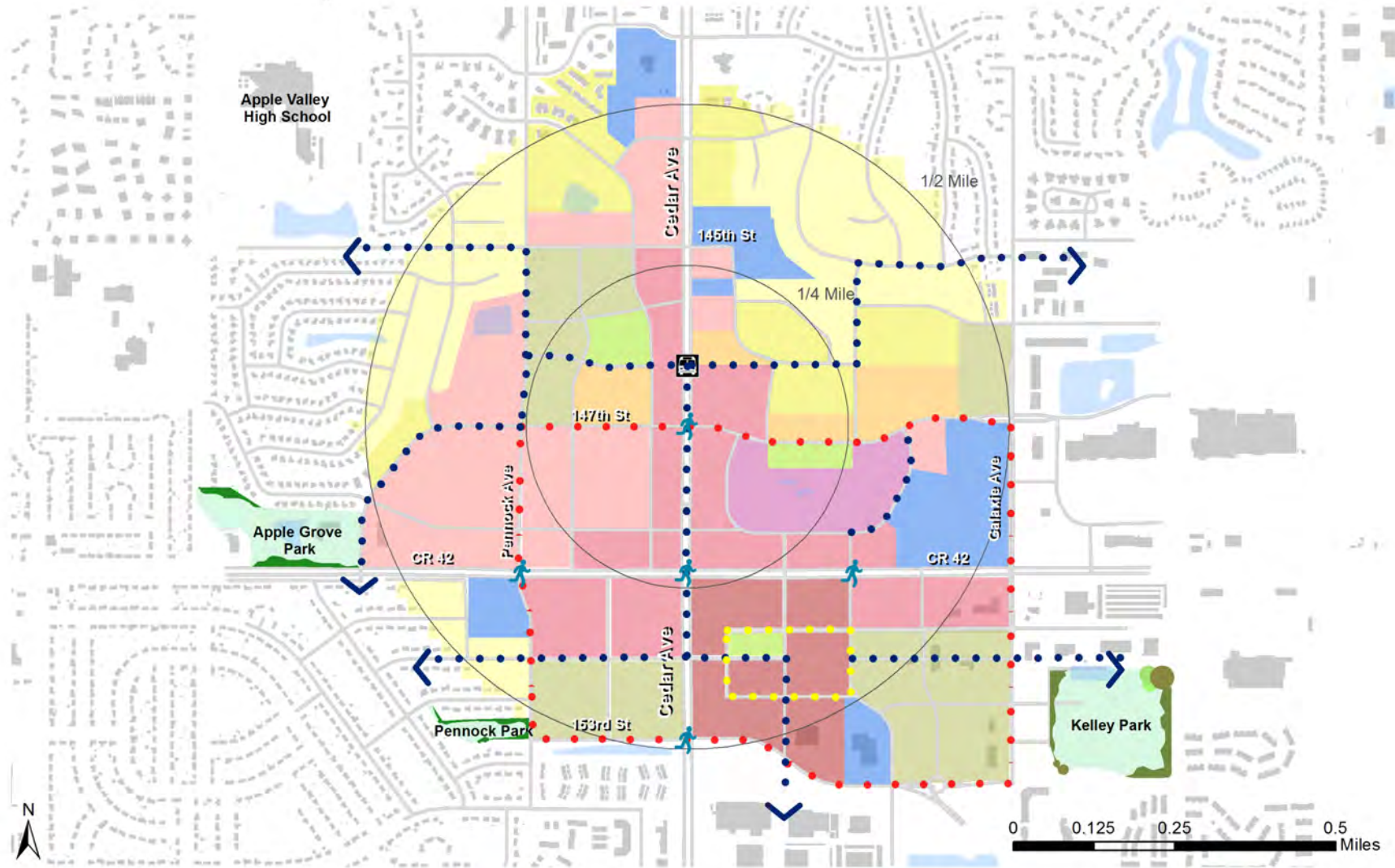
### SOUTHEAST













The southeast quadrant is highlighted by the creation of a pedestrian shopping district. This district should be focused around the pedestrian, with limited access for vehicles. A centrally located park provides a unique recreation area that can be utilized by pedestrians and businesses alike.

This district provides a pedestrian connection to Kelley Park and Central Village; long avenues from Galaxie Avenue to Cedar Avenue create malls where residents can shop and enjoy a ‘traditional downtown’ experience.



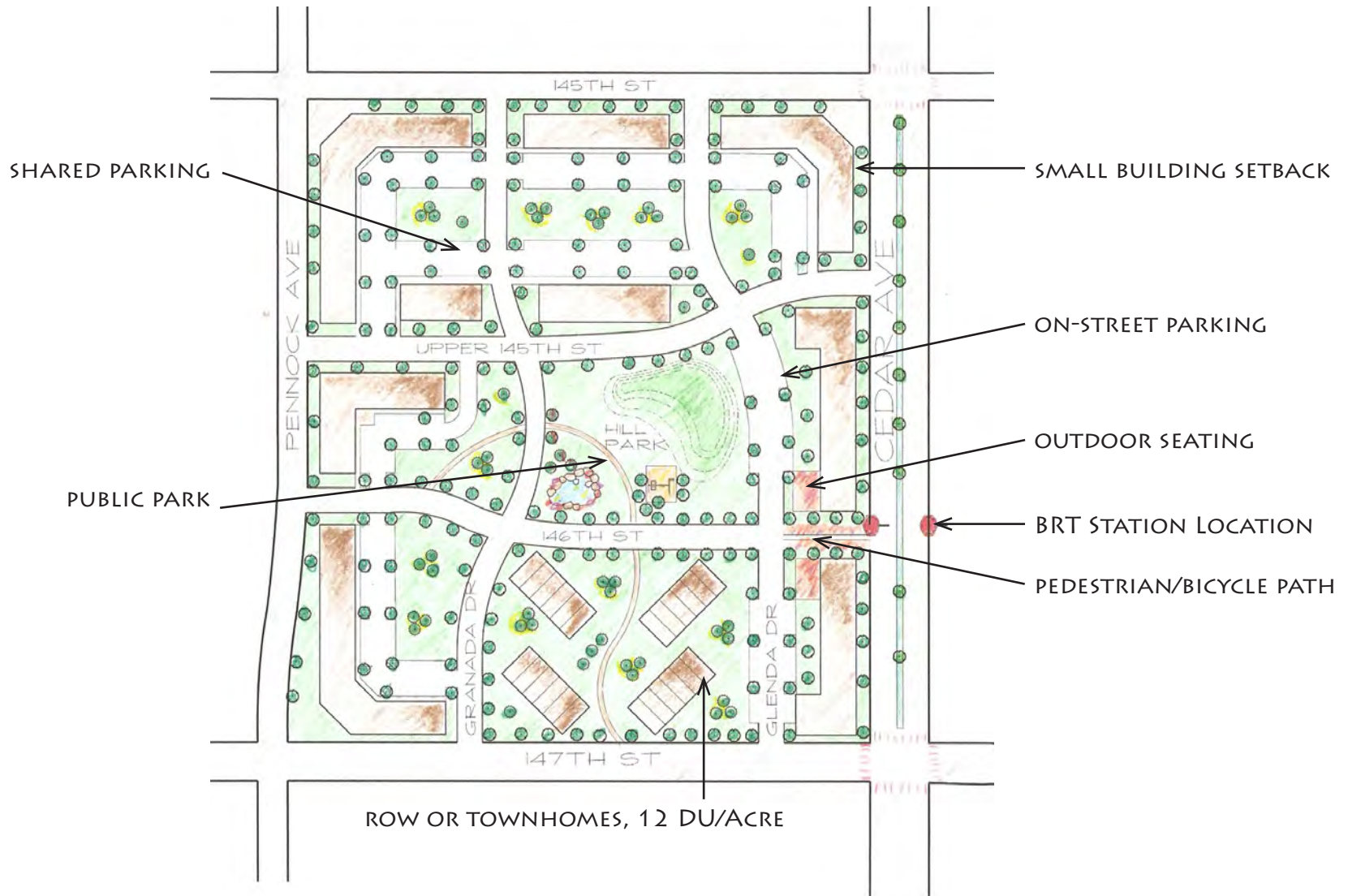
MAP 5. PROPOSED STATION AREA CIRCULATION



- |   |  |  |   |
|---|--|--|---|
|  Pedestrian Improvements                   |  Existing Neighborhoods           |  Medium Commercial            |  Institutional |
|  Pedestrian Shopping Route                 |  Medium Density (6-12 units/acre) |  Dense Commercial             |  Park          |
|  Priority Pedestrian / Bicycle Connections |  High Density (12+ units/acre)    |  Pedestrian Shopping District |  Water Bodies  |



**POTENTIAL SMALL AREA PLAN** in the northwest Station Area. Because of its proximity to the Station area transit stop, this small area was selected to display what a block could potentially look like in years to come. Buildings are positioned close to the street, the tree canopy is increased, on street and shared parking is created, parking a pedestrian/bicycle pathway is established, and housing and outdoor seating is located near a public park.



## 147<sup>TH</sup> STREET STATION AREA SUSTAINABILITY MASTER PLAN

**POTENTIAL SMALL AREA PLAN** rendering. This rendering shows the scale of the potential buildings in relationship to the transit stop and skyway structure, which is located in the upper left of the drawing. The dense commercial/office buildings would be located near the transit stop along Cedar Avenue. The rowhouses would be buffered from the noise of Cedar Avenue by being placed mid-block between 146th Street and 147th Street. Given the height of the transit stop tower, buildings of 3 or 4 stories would not seem out of place in this area. The pedestrian walkway would also create a visual sightline down 146th Street. The overall feel, or “sense of place,” of the area would be that of a quaint transit neighborhood; one that a transit rider would want to spend time in before and after their commute.



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# CHAPTER



*“We are seeing the birth of a new perspective of the world, where ecology and economics are two sides of the same coin.”*

*- Leif Johansson*

# 3

# Economics

**W**hat is Economic Sustainability? Economic sustainability has many different definitions and dimensions. Depending on whether you are speaking to a City representative, a city resident, or a city business owner, you are likely to get different responses.

For the City of Apple Valley, economic sustainability may mean expanding the supply of local jobs, and increasing the ability of people to both live and work in Apple Valley. A greater number of jobs will likely translate into an increase in the number of employees and businesses. From the City's perspective, an expanded tax base provides the City with a greater revenue pool with which to reinvest in or increase its services and facilities.

From a resident's perspective, economic sustainability may represent the ability to save and earn money. Providing local commerce, housing, and employment options will allow residents of Apple Valley the opportunity to access centrally located stores, jobs and amenities. Local access to these amenities will reduce reliance on the personal automobile, reducing costly fuel expenditures and ultimately saving residents money.

A business owner might define economic sustainability as the opportunity to save money, expand operations, and grow sales and profit. Concisely stated, it means prospering as a business.

Altogether, economic sustainability is about prosperity, both today and tomorrow. In order to remain functional, cities, residents, and businesses must be able to balance their costs and revenues to sustain their "operations." If they are able to do so, they will be able to make important contributions to society such as providing jobs, training skilled laborers, ensuring the community's ability to pay and participate in commerce, and supporting community services. Individuals and organizations that acknowledge and embrace economic sustainability as their long-term goal may be best equipped to prosper, both for their own benefit, and for the well-being of society as a whole.

## THE GUIDING PRINCIPLES OF ECONOMICS ARE:

- CREATE EMPLOYMENT OPPORTUNITIES  
WITHIN THE STATION AREA.
- MAXIMIZE ECONOMIC  
OPPORTUNITIES WITHIN THE STATION  
AREA.



## PRINCIPLE 1: CREATE EMPLOYMENT OPPORTUNITIES WITHIN THE STATION AREA

Currently, the City acknowledges that opportunities within the city to live, shop, do business, and learn, are plentiful, but stronger efforts can be made to provide more employment opportunities. Therefore, as redevelopment occurs, effort should be made to increase the quantity and quality of jobs within the Station Area.

According to The Comprehensive Plan:

*The creation and retention of jobs is an important community development objective for Apple Valley. Jobs attract residents to the community. Jobs provide the income needed to support local business and government services. Retention of businesses promotes community stability by keeping jobs and residents in Apple Valley. (pg 6-3)*

### OBJECTIVE 1.1: INCREASE THE QUANTITY OF JOBS

When compared to its four neighboring cities of Burnsville, Lakeville, Eagan and Rosemount, Apple Valley has fewer employees and is near the bottom in number of employment establishments. This data is consistent with the fact that approximately 54 percent of residents commute to jobs outside of the city.<sup>2</sup>

In 2000, Apple Valley's ratio of jobs to households was 0.74. Based on the City's future land use, and Metropolitan Council projections, that ratio is expected to increase to 0.8 by 2030. However, the *Job-Housing Balance: APA Planning Advisory Service*

*Report* recommends a target job-housing ratio that is closer to 1.5 jobs per household.

Increasing the quantity of jobs within the Station Area will help achieve economic sustainability by decreasing the travel-related expenditures often incurred by commuter workers. Additionally, a shorter commute reduces vehicle-related emissions and increases the time workers can spend with their families, which simultaneously promote environmental sustainability and livability.

### Recommendation 1.1.1: Host "New and Expanding Business" Consultations

Employment opportunities can be added to the Station Area by reaching out to new and expanding businesses and encouraging them to locate in Apple Valley. Consultations with City staff can connect business owners with the knowledge and resources they need to succeed.

The City of Brooklyn Park Economic Development Division hosts "Test Drive Your Business Idea" consultations. This monthly event is an opportunity for prospective and existing businesses to develop a greater understanding of the basics of putting together a business plan and other sales projections through one-on-one consultations. The City resource is offered in collaboration with the Metropolitan Consortium of Community Developers (MCCD).



Recommendation 1.1.2: Publish promotional material describing the benefits of locating a business within the Station Area

Recommendation 1.1.3: Document and publish information regarding available properties within the Station Area

In order to maximize the number of employment opportunities within the Station Area, it is imperative to actively advertise the benefits of locating a business there. Publishing information regarding current “for-sale/for-lease” properties within the Station Area, as well as releasing information that highlights the numerous attractions the area has to offer, will help get the word out. Promotional efforts should be made to advertise to as large an audience as possible – locally and globally.



Vacant land approximately one block from the southbound Station Area transit stop

Recommendation 1.1.4 Expand business opportunities through partnerships

Apple Valley can actively support the retention and expansion of current businesses, and strive to attract new ones, by encouraging partnerships between businesses and organizations that specialize in business assistance. For example, partnerships can help businesses leverage themselves by learning how to capitalize on their unique location within a transit-oriented development, provide access to business start-up loans, as well as gain valuable support and guidance on expanding operations.

One partnership that has proven to be successful and cost-effective to other local units of government (e.g., Forest Lake and Dakota County) is the University of Minnesota’s Extension Service Business Retention & Expansion (BR&E) Program. Extension services, such as the popular BR&E workshops, can help cities assess the feasibility of implementing the program, learn how to conduct BR&E visits, and set priorities for future action. Possible outcomes of a BR&E program include welfare-to-work initiatives and employee retention. The Extension office serving Dakota County is located in nearby Farmington.

Potential Partners include: University of Minnesota Extension Services (BR&E program), DEED (MN Investment Fund), MCCD (Micro Loans), Central MN Development Company (fixed asset loan funds), Service Corp of Retired Executives (counseling and workshops for new small businesses), St. Thomas Small Business Development Center (small business consulting, business plan assistance, market research, financial planning and analysis, loan packaging, and cash flow management).



OBJECTIVE 1.2: INCREASE THE QUALITY OF JOBS

The Census Bureau has recently developed a labor market analysis tool called Longitudinal Employer-Household Dynamics (LEHD). This tool provides detailed employment data collected from state employment security agencies (e.g., DEED) and a variety of federal agencies (e.g., Social Security Administration). The LEHD tool provides information on job location, worker residence, industry sector, worker age, and job earnings.

LEHD data from 2009 indicated there were approximately 5,500 primary employment opportunities within the Station Area. The highest quantities of employment opportunities were in the retail trade, health care, and social assistance sectors. Jobs with the least quantity of workers include utilities, construction, management of companies and enterprises, and arts and entertainment.

**Recommendation 1.2.1:** Require that 50 percent of new jobs created within the Station Area are capable of supporting a typical-sized Apple Valley family of 2.83 individuals

Apple Valley employers pay the lowest average wages compared to the four neighboring cities of Rosemount, Lakeville, Eagan and Burnsville. According to LEHD, approximately 30 percent of Station Area employees have earnings less than \$15,000 per year and only 35 percent earn between \$15-\$40,000 per year; close to 65 percent of Station Area jobs pay less than living wage. For example, the living wage necessary to support a one adult and one child in Dakota County is \$18.57 per hour.<sup>3</sup> Efforts to ensure family-supportive employment opportunities exist will be essential to the economic sustainability of the area.

Data for Living Wage calculations can be found at:

Poverty in America: Living Wage Calculator  
<http://www.livingwage.geog.psu.edu/>

**Recommendation 1.2.2:** Balance the share of retail sales occupations, such as fast-food service and retail sales, with the need for providing well-paying jobs

Occupations within the Station Area that pay below the living wage include community and social services, healthcare support, serving, service food preparation, cleaning and maintenance, personal care and services, sales, as well as office and administrative support. While these occupations provide value for residents and businesses, an appropriate balance should be sought to provide more well-paying jobs. Not all retail occupations are unsupportive to a TOD environment; they provide the goods and amenities that residents enjoy, such as restaurants and unique shopping experiences. However, with infill development and the addition of mixed use development, more office space will be available that would be attractive to occupational areas such as finance, legal, education, arts/design/media, or construction.



Walmart, Apple Valley, MN



www.focus.com

### Recommendation 1.2.3: Implement Tax Increment Financing (TIF) where appropriate

Given the success of past TIF projects in Apple Valley, the City can consider using this economic development tool, where appropriate, to increase the number of well-paying jobs in the Station Area. One of the primary benefits of TIF is that it can require the creation of a certain number or percentage of living wage jobs. One advantage to using TIF in the Station Area is the concurrent benefit of fostering infill or redevelopment. The Cedar Avenue BRT Plan outlines a potential TOD TIF District, and explains how the benefits of TIF go beyond providing well-paying jobs; they also increase the quantity of commerce options and high-quality development.

## PRINCIPLE 2: MAXIMIZE ECONOMIC OPPORTUNITIES WITHIN THE STATION AREA

When cities, residents, and businesses, are able to maximize their economic opportunities, they are able to make meaningful contributions to society. Prosperous businesses are able to increase or expand the services that they provide, which benefits local community members. When residents prosper, they are able to better support their local businesses. The BRT corridor and its accompanying future land uses will help improve regional connections for its residents and businesses, make the City more profitable by expanding the property tax base, and create new value through an enhanced image that will retain its competitiveness in the region.

### OBJECTIVE 2.1: MAXIMIZE PROPERTIES CONTRIBUTING TO THE OVERALL TAXABLE MARKET VALUE

Property tax is the biggest source of revenue for the City. Local property taxes are applied to the value of the property's land and building, and often vary by the type of property (e.g., residential, office, industrial). The value of the property is generally based on its Estimated Market Value (EMV). Dakota County assesses and determines the EMV, but it may include limits imposed by the State Legislature, resulting in an adjusted EMV, or Taxable Market Value (TMV). TMV represents the property value that can be taxed. The more buildings that occupy a location, the more opportunities the City has to collect property taxes. Additionally, well-maintained buildings and land equate to higher property assessment values, which increases the total TMV.

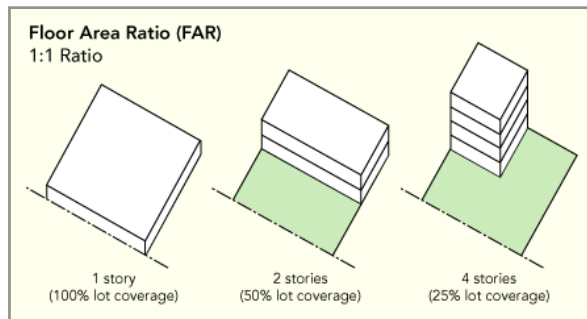


**Recommendation 2.1.1: Set minimum Floor-area Ratios (FARs) within ½ mile of the Station Area**

For the City to collect more property tax revenue, it should promote the construction of buildings with higher FARs. FAR measures the intensity of site development and represents the ratio of total building space to land area. Generally, a more compact, high-rise building (e.g., Wings Financial) has a high FAR, whereas a single story, wide footprint building has a low FAR (e.g., Wal-Mart). Higher FARs increase density and compactness and yield higher overall land values.

If the City were to set a minimum FAR within different zoning designations (greater than 0.3), as opposed to other parameters such as building height, width, or length, it will encourage the addition of property that increases the overall TMV.

Moreover, floor area correlates well with other considerations relevant to zoning regulations, such as total parking that would be required for an office building or total number of units that might be available for residential use. Thus, many jurisdictions have found it unnecessary to include such provisions when using FARs.



<http://www.ci.la.ca.us>

**Recommendation 2.1.2: Promote the construction of buildings that allow for the adaptive reuse of its space**

Property owners that construct buildings that allow for the adaptive reuse of its space provide economic sustainability in many ways. For instance, property owners may have lower vacancy rates and tenant turnover costs if the rentable space is flexible. A flexible building is one that allows for adaptive reuse of space through the use of moveable walls or reusable products and materials. If a retail establishment were to go out of business, and two office users wanted to take their place, moveable walls and reusable materials would make move-in much easier and cost-effective—both for the tenant and the property owner. If a property owner has inflexible walls, they will need to wait for the perfect tenant to select their space.

**Recommendation 2.1.3: Encourage property maintenance and investment by effectively marketing existing and future business financing support services**

Businesses can be encouraged to implement value-added improvements through support services such as those already provided by the City (i.e., Small Business Association connections) in addition to Loan Guarantees. Loan Guarantees are an economic development tool in which an authority (i.e., City) issues a guarantee to a lender, enabling business owners to obtain capital for property maintenance. To be effective, all businesses within the Station Area should receive marketing on these services.

**Recommendation 2.1.4: Encourage property maintenance by effectively utilizing Conditional Approval Bonding**

The City can apply bonding requirements in their construction approval process. This tool would require developers and businesses to submit a monetary deposit to the City, which would be returned only if and when certain requirements are fulfilled. For example, the City may deny repayment unless they see proof of landscaping and/or property maintenance, or they may require the use of native plant species (see also Recommendation 10.3.1).



www.thevagary.com



www.thevagary.com



www.thevagary.com

**Recommendation 2.1.5: Diversify business types in the Station Area**

Currently, the Station Area is dominated by retail land uses. A sustainable community offers a mix of office, retail and residential land uses that accommodates the needs of its residents and nearby businesses. The more diverse the business types are, the more the Station Area will be able attract residents and new development. Establishing a diverse business community maximizes economic opportunities by ensuring more local commerce possibilities and by providing a wide and stable tax base for the City.

**Recommendation 2.1.6 Consider using a Land Value Tax in conjunction with a lower business property tax**

A Land Value Tax (LVT) is a way to spur efficient use of land by assessing taxes primarily on the land itself, not the improvements on the land (such as buildings). The current property tax system taxes improvements at a much higher rate than the land, creating disincentives for developing land in high value locations, such as downtown or near transit stops. This system rewards property owners for operating large surface parking lots. Taxes are low because the property hasn't been improved, and the owner can generate enough revenue from a single use. With a land value tax system, the downtown surface parking lot would have very high property taxes, because the land is valuable for its location. The owner would need to build on the land to generate enough revenue to pay the tax. The incentive is for intense development, as the land value tax would then be spread over many commercial or residential units. If property owners develop to full parcel potential, they have more revenue. Studies have shown that when a LVT is used in concert with lower building improvement rates, construction increases.<sup>4</sup>

Many cities in Pennsylvania use Land Value Tax as a way to encourage efficient use of land. If Apple Valley were to take a similar approach to taxation in the Station Area, owners of large surface parking lots, such as Time Square, may reconsider how they use their land, and try to determine if there are ways to capture more revenue from it, such as by increasing build-out. Similarly, redeveloped parcels are likely to become more intensely built.



**OBJECTIVE 2.2: REMOVE BARRIERS THAT CONSTRAIN WALK-UP BUSINESS WITHIN THE STATION AREA**

The 147th Street Station is planned as a walk-up station, meaning that the spaces surrounding it should be pedestrian-oriented. A pedestrian-friendly environment is essential to the success of the Station Area. Businesses within this area should be able to capitalize on the expanded foot traffic they will experience, not be hindered by City regulations or ordinances.

**Recommendation 2.2.1: Remove barriers that restrict Station Area businesses from placing pre-selected signage and carts outside their establishment**

Regulations regarding outdoor signage and display should be relaxed for businesses within the Station Area. This may include the use of A-frames, sandwich boards, and vendor carts (see also Recommendation 4.1.2), which are mechanisms to attract pedestrian business. Additions such as these afford businesses the opportunity to advertise daily specials directly targeted to transit users and nearby residents or employees. Signage also helps to increase business sales. Apple Valley's sign code permits the use of temporary signage outside of business establishments for a maximum of 15 days and no more than 30 days per calendar year. However, businesses located near the walk-up station will experience high volumes of foot traffic and should be allowed to place outdoor signage in front of their establishment for extended periods of time, without having to reapply or pay for a temporary sign permit every 15 days.

If sidewalk vendor carts are allowed within the Station Area, businesses could capitalize on the increased foot traffic. For instance, Caribou Coffee could sell pastries & coffee; Von Hanson's could sell hot dogs and brats.



[www.castagnaawnings.com](http://www.castagnaawnings.com)

If signage, such as A-frames and sandwich boards, is allowed within the Station Area, businesses such as Applebee's could advertise their To-Go services and Archiver's could advertise their class of the week.



<http://gothamist.com>



[www.springvalleysigns.com](http://www.springvalleysigns.com)

### Recommendation 2.2.2: Relax noise ordinances within the Station Area for special events

Noise ordinances can be modified to allow Station Area businesses to host regular outdoor music events (see also Recommendation 4.1.2). For instance, a business that hosts an acoustic band every Friday during the summer would likely become a great community attraction, spurring increased use of the BRT and companion business patronage.

Restaurants and bars within ¼ mile of the Station Area could jointly advertise a “Best Happy Hour Competition,” where patrons vote on which establishment hosts the best happy hour. Incentives could be used to encourage customers to arrive via the BRT by the restaurants offering half-price appetizers, or “Buy One, Get One” with a transit ticket. Restaurants could also host “Battle of the Bands” nights—where local bands could come and play during early or late-night happy hours.

### OBJECTIVE 2.3: ENCOURAGE PRIVATE DEVELOPMENT BY IMPROVING INFRASTRUCTURE, CREATING PUBLIC AMENITIES, AND ESTABLISHING INCENTIVES THAT ATTRACT DEVELOPERS AND QUALITY INVESTORS

An established framework of infrastructure; such as streets, sidewalks, and sewer lines; is a fundamental element for development. Private development is more likely to occur when infrastructure is previously established or accessible. Since much of the Station Area already has a well-established framework of streets, sidewalks and sewers, this is a benefit to any developer proposing infill development. However, there is room for infrastructure improvements within the Station Area that can help bolster development interest.

#### Recommendation 2.3.1: Establish and maintain a more complete street grid

Certain areas of the Station Area are void of a well-established interior street network. The old adage of “location, location, location” comes to life if all businesses are easily accessible via an easy-to-understand connected street and sidewalk network. An accessible business has a higher rate of success than one that is accessed via a winding web of obtuse links. Confusing street networks may create unnecessary difficulties for visitors. Reestablishing an interior street grid with consideration of all modes of transportation will improve accessibility for residents and visitors alike.



**Recommendation 2.3.2: Incorporate more public parks within the Station Area**

Private development is more likely to occur nearby parks. Parks provide many amenities including enhanced views, a place for entertainment, and increased community interaction. Additionally, parks attract visitors which are likely to patronize nearby businesses (see also Recommendation 4.1.1).

Kelley Park, located near Apple Valley’s Central Village, was installed as a lone public facility. However, land surrounding Kelley Park is ripe for development. A similar tactic could be used within the Station Area. If land acquisition becomes available, the City could attain the land for the purpose of it becoming a catalyst for development. Similarly, park dedication fees could be collected and used for pocket parks, or larger block parks.



Kelley Park, Apple Valley, MN

**Recommendation 2.3.3: Examine existing permit, inspection, and approval processes and find ways to streamline them in order to save applicants money**

Efficient City processes reduce the total costs of the review and permitting process. Administrative processes can be streamlined through expedited development reviews, and team inspections (Building, Plumbing, Electrical, Mechanical, and State). Similarly, the City can reduce development fees, incentivizing developers to choose Apple Valley sites.

**Recommendation 2.3.4: Create a Station Area Zoning Overlay District to encourage quality development**

Zoning can be a powerful tool in helping to create the vision of a pedestrian-friendly, transit oriented Station Area. Zoning incentives allow for increased densities and parking reductions, as well as enable mixed-use development. Concurrently, zoning can prohibit uses that would not be supportive in the Station Area, such as car sales, drive thrus, and large parking lots.

**Recommendation 2.3.5: Establish innovative, TOD-specific parking standards**

Specifically in TOD areas, parking standards can be relaxed for developers. Examples such as “proof of parking” can be a development incentive. Under this arrangement the developer only has to prove that the required number of parking spaces can be accommodated. The developer does not need to install all required parking spaces until the need has been presented.



The City can also encourage property management companies to “unbundle” parking stalls from their units. For example, whether a tenant needs them or not, apartment buildings often provide 2 parking stalls per dwelling unit. However, in a TOD development, residents may be more apt to own bicycles or use transit as their primary mode of transportation. Unbundling parking stalls from the dwelling unit promotes economic sustainability in two primary ways:

- By decreasing construction costs for the developer—they are not required to install 2 stalls per unit.
- By decreasing rent for tenants—they are not required to pay for two spots if they are not using them.

#### Recommendation 2.3.6: Promote the creation of a Sustainability Improvement District (SID)

Similar to a Business Improvement District (BID), the City should promote the creation of a Sustainability Improvement District. A BID is an area in which all businesses and landowners pay a special “location tax.” The money collected from the taxes are pooled together, and used for location-specific improvements, such as landscaping, street furniture, building upgrades, and special events. All improvements serve to benefit participating businesses.

A Sustainability Improvement District (SID) would operate in a similar fashion as a BID, with one addition: all improvements would need to be sustainable. The guiding principles defined in this plan could be used as the basis for decision-making criteria.



# CHAPTER

A young girl with braided hair is smiling as she rides a bicycle. She is wearing a dark jacket and a headband. In the background, an adult is also riding a bicycle, but they are out of focus. The entire image has a purple tint.

*“The Quality of Life is  
determined by its activities”  
- Aristotle*

# 4

# Livability

For years development patterns around the country have focused on the efficient movement of the automobile, often at the expense of personal interaction with the built environment. But it is this personal interaction with the built environment that makes a place special. The unique aspects of a place and the ease at which one traverses the landscape contribute to what makes an area an attractive place to live. Thus, the term livability encompasses those qualities of the natural, social and built environment that contribute to a sense of place.

Creating an ambiance in the Station Area in which residents are drawn by the active, healthy, well-connected and vibrant atmosphere is central to the prolonged sustainability of the area. A livable station area promotes sustainability by attracting new residents and employers while retaining the existing. A livable station area infuses the local economy through the creation of a desirable destination in which visitors are encouraged to explore and patronize local businesses.

The City of Apple Valley expresses its commitment to creating and maintaining those elements that add to the livability of the city in The Comprehensive Plan:

*Apple Valley is a great place to live. We build neighborhoods of enduring quality and character. They are active, healthy and safe places. Tree lined, well maintained streets increase*

*the beauty and comfort of our neighborhoods. Sidewalks and parks provide places to meet our neighbors. The places we live are well connected to parks, schools, shopping and employment. (pg. 2)*

Apple Valley's dedication and commitment to creating a livable city is exemplified by its being named the 20th best place to live in 2010 by Money Magazine. The addition of BRT provides yet another reason to call Apple Valley home and the associated infrastructure improvements will make the 147th Street Station Area a focal point for residents and visitors. As redevelopment opportunities arise Apple Valley can further enhance the quality of life for residents and visitors by considering livability principles in all development and planning.

The Livability section of this plan has been separated into three guiding principles. These principles have been developed based upon the existing conditions of the Station Area, review of principles and goals of existing planning documents and the unique set of opportunities that the Station Area provides. These principles assist in the fulfillment of the previously identified planning goals as well as contribute to the overall sustainability of the Station Area.



THE GUIDING PRINCIPLES OF  
LIVABILITY ARE:

- CREATE AN INTEGRATED  
TRANSPORTATION NETWORK
- ENHANCE THE PUBLIC REALM
- IMPROVE CONNECTIVITY

PRINCIPLE 3: CREATE AN INTEGRATED  
TRANSPORTATION NETWORK

Unstable gas prices, an aging population and increased awareness of the environmental and social impacts of an auto dominated landscape, all call for the creation of an integrated transportation system. A system that is supportive of transit as well as being pedestrian and bike friendly, while still allowing the freedom of the personal automobile, promotes sustainability by providing transportation options. Providing a multi-modal transportation network allows residents of Apple Valley to adapt to external changes to the transportation system, such as rising fuel prices.

The 147th Street Station Area is currently dominated by transportation infrastructure that caters to the personal automobile. Large parking lots, busy roads, and wide intersections create barriers to the use of other modes of transportation.

However, the addition of BRT to the heart of Apple Valley provides an opportunity to turn an auto-dominated landscape into one that is supportive of all modes of transportation.

An integrated transportation system provides an array of benefits to a large segment of the population as it considers all forms of transportation in site design, transportation planning, and streetscape enhancements. To ensure the benefits associated with an integrated transportation network are long-lasting and add to the sustainability of the Station Area, education and awareness about bicycle, pedestrian and automobile laws and rights will be essential to a safe, efficient and integrated transportation network.

OBJECTIVE 3.1: INTEGRATE TRANSIT INTO TRANSPORTATION  
NETWORK

With the adoption of TOD principles in the design of the 147th Street Station Area, Apple Valley has the opportunity to create an integrated transportation system with BRT amenities as the focal point. Increased use of mass transit is associated with alleviating traffic and parking congestion, reducing traffic accidents, lowering road and parking infrastructure costs, and improving air quality by reducing excessive energy consumption and toxic emissions.<sup>5</sup>



MVTA, south Twin Cities metro bus, [www.metro-magazine.com](http://www.metro-magazine.com)



**Recommendation 3.1.1: Coordinate Transportation Services with Local Transit Providers and Private Shuttle Operators**

Apple Valley is a regional destination for Minnesotans. The addition of BRT along Cedar Avenue allows visitors a new way to conveniently and efficiently access the city. In order to create a pleasant and trouble free visit to Apple Valley and seamless transportation connections to area destinations, coordination with area attractions in transportation, advertisement and funding opportunities should be maximized. Local bus stops within the 147th Street Station Area should be well defined and easily recognizable to promote integration between regional and local transit services.

**Recommendation 3.1.2: Provide Educational Material on How to Use BRT and Local Transit Services**

For some, mass transit may be a new experience. Educational materials and demonstrations can go a long way in addressing apprehensions about mass transit use and eliminating what can sometimes seem an intimidating experience, particularly for older residents. EndoteShaheen Online educational videos, like those provided by Metro Transit, can be a useful tool for potential transit riders.

**Objective 3.2: Integrate Pedestrian Mobility into the Transportation Network**

Before and after each trip all transit users are pedestrians. The safe and efficient movement of transit riders to and from destinations

is an important aspect of creating a sustainable Station Area. The most pressing pedestrian impediment in the Station Area is traversing a landscape that is predominantly focused on the personal automobile. Lengthy crosswalks, large parking lots and fast moving vehicles create a hostile pedestrian environment. Creating an environment that promotes pedestrian mobility will encourage transit users to explore and frequent local businesses as well add to the life and vitality of the Station Area.



Crosswalk entrance to Kelley Park, Apple Valley, MN

**Recommendation 3.2.1: Complete the sidewalk and trail network per recommendations put forth in Bike Walk Apple Valley while continuing to explore the creation of new connections**

During the creation of the Bike Walk Apple Valley Plan a gap analysis was conducted to identify those areas in Apple Valley that are currently underserved by the sidewalk and trail network. While the Station Area is generally well served by the sidewalk and trail network, enhancements and removal of impediments will be needed to ensure pedestrian mobility is fully integrated into the overall transportation network of the 147th Street Station Area.



## BIKE WALK APPLE VALLEY GUIDING PRINCIPLES

1. ENHANCE OPPORTUNITIES FOR APPLE VALLEY RESIDENTS AND WORKERS TO LIVE MORE ACTIVE LIVES.
2. ENHANCE THE SAFETY, CONVENIENCE, AND ATTRACTIVENESS OF WALKING AND BIKING FOR CHILDREN
3. INTEGRATE WALKING AND BICYCLING MORE DIRECTLY INTO PATTERNS OF LAND USE
4. IMPROVE MULTI-MODAL ACCESS FOR THE DOWNTOWN
5. ALLOW APPLE VALLEY TO EVOLVE AS A SUBURBAN AND SUBURBAN INTENSIFIED, WALKABLE PLACE.
6. ENCOURAGE CONNECTIVITY ACROSS MODES
7. ENHANCE TRAILS AND SIDEWALKS
8. COMMIT TO LEVELS OF MAINTENANCE

Recommendation 3.2.2: Require all new development to enhance and contribute to the sidewalk and trail system through right of way easements, pedestrian and bicycle amenities or facilities

According to the Centers for Disease Control and Prevention, an estimated 16-17% of Dakota County residents report no leisure time physical activity (2008). The effects of physical inactivity can be seen across the nation in higher rates of obesity and diabetes and increasing health costs. A complete, enhanced and easily accessible sidewalk and trail network will allow visitors and residents of the Station Area with a means to incorporate leisure time physical activity into their daily routines.

### DAKOTA COUNTY-SIMPLE STEPS PROGRAM



Recognizing the role walking plays in levels of physical activity Dakota County offers a program called Simple Steps to encourage healthy lifestyle choices by increasing the number of individuals who walk. The program provides maps to area destinations, a walking guide and motivational emails. Walking teams record the number of miles they have collectively walked and are then eligible for prizes. Contact Dakota County for more information.

[www.co.dakota.mn.us](http://www.co.dakota.mn.us)

Recommendation 3.2.3: Utilize Traffic Calming Techniques such as Landscaping, On-Street Parking and Bump-Outs

A number of traffic calming techniques can be utilized to make the transportation network of the 147th Street Station Area more conducive to pedestrian mobility. Landscape improvements, pedestrian bump-outs, countdown crosswalk signals, textured/colored crosswalks, pedestrian island refuges and on-street parking are ways in which to alter a landscape meant to serve the automobile into an area that promotes and encourages pedestrian mobility. A number of intersections in the Station Area are identified as areas of particular concern for pedestrian safety (see Circulation Map, pg. 23). Focusing safety measures at these intersections will improve the overall pedestrian mobility of the Station Area.



Pedestrian safety pedestal, Silver Lake Village, St. Anthony Village, MN

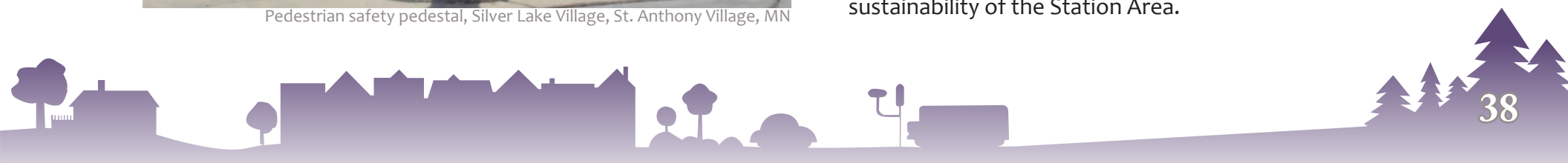
Recommendation 3.2.4: Promote mixed use development through the creation of mixed use zoning districts

The integration of residential and commercial uses in the Station Area will allow residents to access goods, services and entertainment providers without having to use an automobile. In addition, mixed-use development will also enhance the viability of retail and service providers by reducing the travel distance for potential customers.

Central Village is a current example of mixed-use development as commercial uses are combined with residential units. Mixed-use development in the Station Area could look to intensify land use by developing vertical mixed-use buildings. Residential units above ground floor retail will promote activity at all times of the day and increase safety by providing more “eyes on the street”.

Objective 3.3: Utilize Bike Friendly Design

Transportation infrastructure plays a significant role in actual and/or perceived barriers to considering the bicycle as a viable transportation alternative to the automobile. Fast moving traffic, roadways entirely dedicated to the automobile and a lack of bicycle amenities make travel via bicycle a challenge. Designing a landscape that is more conducive to bicycle mobility will allow visitors and residents of Apple Valley to increase the modal share of bicycles. Modal share is the distribution of trips amongst various transportation options. Reducing the modal share of the personal automobile by promoting bicycle use will reduce traffic congestion, encourage physical activity and ultimately add to the sustainability of the Station Area.



Recommendation 3.3.1: Designate clearly marked bike lanes along key routes such as Galaxie Avenue and the Ring Route

The Station Area currently lacks on-street markings for bicycle lanes relegating bicycle users to use sidewalks or risk sharing the road with unaware motorists. The strategic placement of bike lanes along roadways coming and going from the 147th Street Station will encourage bicycle and transit integration, while indicating to motorists the presence of bicyclists on the roadway.

A series of bike lanes that connect the 147th Street Station, the Ring Route and the proposed regional bike trail will allow for a seamless transition from a regional transit amenity to a regional bicycle amenity.



<http://bike-pgh.org>

Recommendation 3.3.2: Require bike facilities such as bike racks, lockers, and/or showers where appropriate at all new and existing development sites

Safe and convenient bike storage at the 147th Street Station will encourage the integration of bicyclists by providing a secure location to store bikes before and after transit trips. Bike storage and racks can come in a variety of shapes and sizes. Apple Valley could promote a bike rack design competition amongst local residents to provide the 147th Street Station Area with a unique and identifiable bicycle amenity.



<http://bikesnobnyc.blogspot.com>



[www.panoramio.com](http://www.panoramio.com)

Due to its proximity to downtown Apple Valley, the 147th Street Station Area is an employment and entertainment hub within greater Apple Valley and will continue to be as BRT related redevelopment occurs. In order to encourage bicycle use as a means of accessing the area, bicycle amenities will be needed throughout the 147th Street Station Area.



Recommendation 3.3.3: Provide online videos and public service announcements outlining the laws and rights of all users of the transportation network

The safe integration of the bicycle into the transportation network within the 147th Street Station Area will require mutual education about rights and laws for both bicyclists and motorists. Motorists will need to be made aware of bicycle rights and how to share the road with those using non-motorized transportation modes. In addition, bicyclists will need to be informed about the laws of biking on the street to insure proper safety for all users of the transportation network.

#### BIKE SAFETY RESOURCES:

Centers for Disease Control and Prevention

<http://www.cdc.gov/HomeandRecreationalSafety/bikeinjuries.html>

Federal Highway Administration

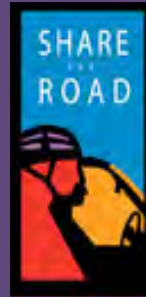
[http://safety.fhwa.dot.gov/ped\\_bike/](http://safety.fhwa.dot.gov/ped_bike/)

Minnesota Department of Transportation

<http://www.dot.state.mn.us/bike/>

Share the Road

<http://www.sharetheroadmn.org/>



#### PRINCIPLE 4: ENHANCE THE PUBLIC REALM

The public realm can be defined as any area in a city that is owned by the public such as public open space, parks, roadways, sidewalks, trails and civic buildings. The public realm often defines an area by providing the public with places to gather and interact as well as the opportunity to create and display community pride through shared investment.

The public realm of the 147th Street Station Area is currently designed in a manner that primarily caters to the automobile. Large streets separate large parking lots. Buildings are setback a great distance from the sidewalk. The fully developed landscape does not provide many opportunities for the addition of parks or open space. The creation of the 147th Street Station provides an excellent opportunity to recreate the public realm of the Station Area into a lively, vibrant, healthy and sustainable location. In addition, the Stations proximity to downtown Apple Valley provides the opportunity to create a lively and vibrant central location, linking the 147th Street Station to the economic and entertainment center of Apple Valley. Investment in the public realm of the 147th Street Station Area will add to the sustainability of the Station Area by further building a sense of pride for Apple Valley residents, attracting new residents and creating an attractive environment in which to locate a business.

## OBJECTIVE 4.1: ENHANCE THE PUBLIC REALM THROUGH THE CREATION OF PARKS AND OPEN SPACE

From habitat protection, to providing a location to partake in physical activity, public parks provide a multitude of benefits to a city. Awareness about the importance of physical activity abounds, yet little attention is paid to planning for healthy lifestyles. A recent survey by the American Planning Association found that only 21% of responding agencies had specific language relating to healthy lifestyles in their comprehensive plans. <sup>6</sup> In this regard Apple Valley is an exception. The Comprehensive Plan lists healthy living as one of the 11 keys for the successful growth of Apple Valley and reads: “Apple Valley’s policies are designed to make it the model of a healthy, active and safe community” (pg 2.4).

With the proposed increases in residential units in the 147th Street Station Area, demand for parks and open space will likely increase. As redevelopment occurs, reclaiming portions of the Station Area for parks and open space will be one way in which Apple Valley can realize the goals set forth in The Comprehensive Plan at the station area level.

**Recommendation 4.1.1:** Create a series of mini-parks, urban oases, pocket parks, or gathering nodes within the Station Area as redevelopment occurs

With the 147th Street Station Area fully developed, locating the land for new parks could prove difficult. A series of pocket parks, mini-parks and/or urban oases linking parks on the periphery,

such as Kelley and Legacy parks, to the Station Area will provide visitors and residents gathering locations within the 147th Street Station Area.



Village at Mendota Heights, MN

**Recommendation 4.1.2:** Explore and develop public/private partnerships in the creation of open space

Public/private partnerships are a creative way to produce public open space in a fully developed area. The 147th Street Station Area can become an attraction for people by using private land such as large parking lots to host public events. A current example of such an arrangement is the farmers market hosted at Mount Olivet Church. Developing relationships modeled after this arrangement will provide visitors and residents of Apple Valley with gathering locations in a currently underserved area.

#### OBJECTIVE 4.2: CREATE AN ACTIVE STREETScape

The streetscape is most easily explained by dividing it into three segments. The private frontage represents the area between the building face and the private lot line (usually sidewalk), the public frontage is the area between the private lot line and the street (boulevards, street trees) and the vehicular lanes are the actual roadways. The streetscape serves many purposes; it allows goods to travel to and from stores, people to move about a city and often contains sewer and electrical lines providing essential services to society. While the purposes of a streetscape are straightforward, the way in which it is designed can significantly influence the manner in which people perceive the streetscape. The manner in which a streetscape is designed, from sidewalk width to building setbacks will influence and ultimately determine what types of activities and interactions take place within the streetscape and thus it is important to create a streetscape that serves desired purposes.

While significant portions of the 147th Street Station Area lie within the streetscape, the current built form does not model that of the desired traditional downtown atmosphere. Large parking lots separate building and sidewalks, creating an environment that is not inviting to pedestrians. Creating an environment that resembles that of a traditional downtown will add to the sustainability of the Station Area by promoting local businesses and creating a vibrant and attractive destination.

Recommendation 4.2.1: Create a maximum setback requirement in appropriate areas as redevelopment occurs

Recommendation 4.2.2: Encourage developers to create active building facades

Active edges that are clearly marked, easily accessible and entrances that appeal to pedestrians will allow for greater interaction between pedestrians and the built urban form. Such interaction is enhanced when the building face and sidewalk are in close proximity, framing the streetscape. Buildings facades could be enhanced through artistic applications, decorative lighting, or awnings to further develop a sense of interaction with the streetscape, allowing the building face take on a more three dimensional style.



Shoppes at Arbor Lakes, Maple Grove, MN



In addition to the aesthetic benefits, reduced setbacks provide safety to pedestrians by directing the sight line of motorists more directly to the road and potential interaction with pedestrians. In areas that do not permit reduced setbacks, outdoor seating, decorative planters, benches or other elements could be provided to bring the activity of the business closer to the pedestrian walkway, enhancing the public realm.

### Recommendation 4.2.3: Visually shield parking lots

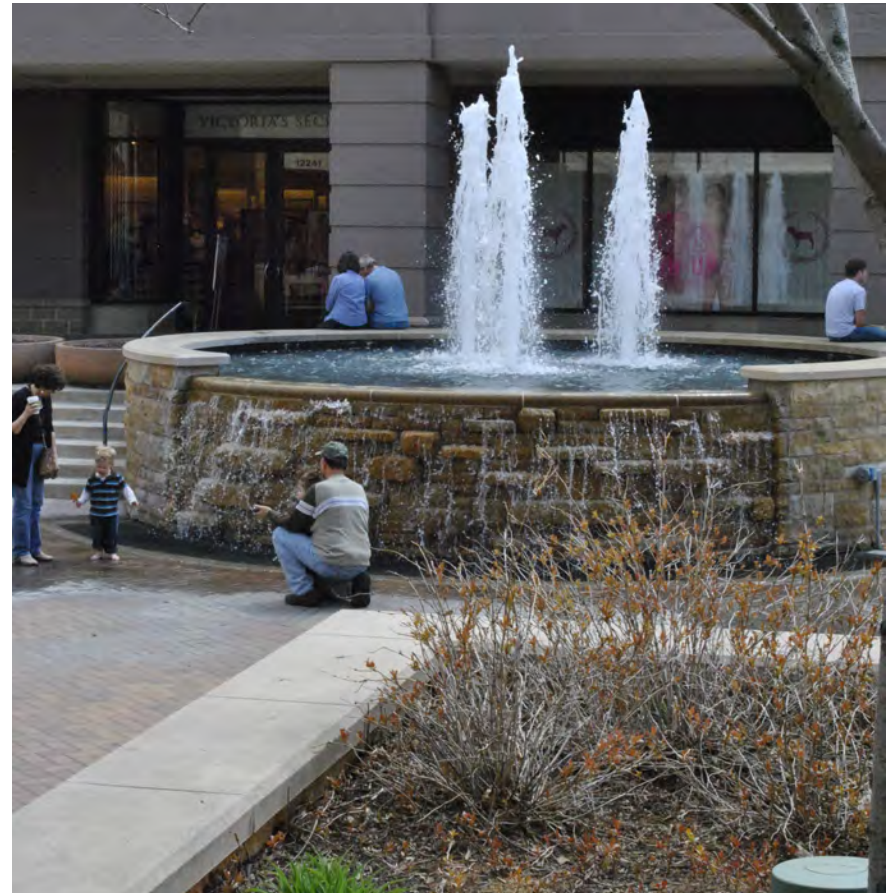
Large parking lots abutting sidewalks and walkways can significantly affect the aesthetics of the streetscape. As redevelopment occurs parking should be located at the rear of buildings to remove them from the streetscape. In addition, parking lots that do have frontages in the streetscape should be shielded by decorative landscaping. As redevelopment occurs, structured parking, underground parking and shared parking could be explored as means to creatively provide parking in a manner that reduces its visual impact.



Village at Mendota Heights, MN

### Recommendation 4.2.4: Provide pedestrian amenities such as benches, walkways, and lighting within the 147th Street Station Area

Benches and water fountains create a streetscape that is inviting and comfortable while pedestrian level lighting that is focused at the pedestrian scale like those seen on the Ring Route creates an environment that is inviting to users at all times of the day, promoting day use while encouraging an active night life.



Shoppes at Arbor Lakes, Maple Grove, MN

Recommendation 4.2.5: Promote businesses that can maximize on the increase of foot traffic to locate in strategic areas within the Station Area

To further cement the 147th Street Station Area as a vibrant destination in Apple Valley businesses catering to pedestrian activity could be encouraged to locate near the transit station. Entertainment providers such as restaurants, bars and cafes cater to foot traffic and create arenas conducive to personal interaction.



Caribou Coffee, Cedar Avenue, Apple Valley, MN

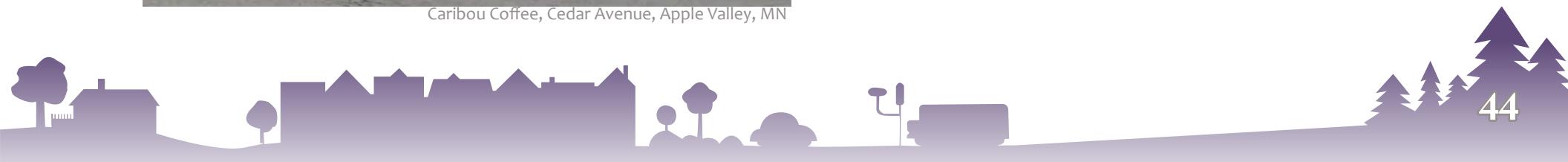
In similar fashion these uses could be encouraged to further enhance the streetscape by providing outdoor seating and other amenities that bring the indoor activities of a business outdoors (see also Recommendation 4.2.1), benefiting the business through increased recognition and the 147th Street Station Area through the creation of a vibrant and lively streetscape.

#### OBJECTIVE 4.3: PROMOTE ARTS AND CULTURE

An enhanced public realm is more than just physical design; it is also the experiences one is exposed to that give life to an area. The 147th Street Station offers an excellent opportunity to enhance the public realm through public art applications, informational kiosks, wayfinding and culturally significant activities. Providing the opportunity for community building events such as end of day concerts, farmers markets, art fairs and other city-wide events will cement the 147th Street Station Area as a focal point for community building and entertainment in Apple Valley.

Recommendation 4.3.1: Incorporate the 1990 Downtown Development Design Guidelines into a TOD overlay district

As the Station Area receives new investment and streetscape improvements, existing gateway structures should be enhanced—especially at the intersection of 147th Street and Cedar Avenue, which is the north central entrance into the Ring Route. These signature intersection design elements are described in detail in the 1990 *Downtown Development Design Guidelines*, but are not advanced or carried out. Signature intersection design elements within the Station Area, including gateway structures, would not



only draw attention and ridership to the BRT, but would help to unify the downtown and promote the City's goal of an enhanced community image.

Partner with Dakota County Technical College (DCTC) Marketing Design and/or Graphic Design students to create a "Downtown Ring Route" gateway design competition. The student(s) who develop the winning proposal/design could potentially be rewarded with a scholarship or award recognition.

Recommendation 4.3.2: Develop a public art plan for the 147th Street Station Area

Public art applications will further develop an identity for the 147th Street Station Area. Sculptures, murals, banners, and decorative lighting are a few examples of how to enhance the public realm through artistic applications. The strategic placement of public art applications can act as a beacon to draw attention to area amenities such as local businesses, key connections and the 147th Street Station itself.



Silver Lake Village, St. Anthony Village, MN



Tribute to Mayor bench, Lyndale Avenue & 66th Street, Richfield, MN

## PRINCIPLE 5: IMPROVE CONNECTIVITY

An integrated transportation system provides transportation options and an enhanced public realm provides amenities that draw and attract people to the 147th Street Station Area. Connectivity within the 147th Street Station Area will determine the ease at which residents and visitors of Apple Valley can access businesses, amenities and improvements put forth in this plan.

Two types of barriers to connectivity are present in the 147th Street Station Area, actual barriers and perceived barriers. Actual barriers to connectivity include dead-ends, a confusing street network, and long block lengths. Examples of perceived barriers to connectivity could be visual barriers, lack of a clear connection between destinations and being unaware of area attractions due to poor exposure. Addressing both the actual and perceived barriers to connectivity will be an important aspect of promoting sustainability within the 147th Street Station Area.

### OBJECTIVE 5.1: IMPROVE AND INCREASE PHYSICAL CONNECTIONS WITHIN THE STATION AREA

Clear, well defined and easily accessible connections to area goods, services and attractions will increase the viability of the Station Area by increasing the number of access points to area destinations.

The majority of the 147th Street Station Area is designed to provide connections to area destinations via the personal automobile. Such a design pattern impedes the connectivity of other modes of transportation. Winding roads, cul-de-sacs and lengthy blocks

typical of suburban development can be confusing and often create physical barriers. Recommendations put forth in this plan will improve connectivity through the creation of an integrated transportation network. Additional improvements are needed to further enhance the connectivity of the Station Area such as providing mid-block access and creating well-defined connections to building entrances.

### Recommendation 5.1.1: Create mid-block access points to shorten block lengths

Redevelopment focused on TOD principles and a traditional street grid will improve the connectivity of the site by providing shorter block lengths and creating safe and practical mid-block access. Re-establishing a traditional interior street grid pattern, allows clear and safe connections to goods and services within the Station Area (see also Recommendation 2.3.1).



From 1900 to the early 1980s, street layout has favored the automobile. While efficient for a vehicle, the use of cul-de-sacs and curving roads create excessively long trips for pedestrians looking to access goods and services.



## Recommendation 5.1.2: Provide clear connections to building entrances

Buildings that are currently separated from the sidewalk by parking lots should look to create clear pedestrian and bicycle access across the parking lots. Walkways and landscaped medians in parking lots connecting building entrances to the sidewalk and trail system will allow residents and visitors to the 147th Street Station Area clear connections to area services, entertainment and employment providers.



Village at Mendota Heights, MN

## OBJECTIVE 5.2: MAINTAIN, ENHANCE, AND CREATE VISUAL CONNECTIONS

Maintaining clear sightlines to and from area destinations, iconic features and transit amenities will create a distinct visual connection for visitors and residents of the 147th Street Station Area. Visual connections will provide clear pathways to and from area destinations, promoting economic activity and pedestrian and bicycle mobility.

The 147th Street Station Area provides many opportunities to enhance visual connectivity. The creation of iconic architecture, gateways and wayfinding signage will provide visitors and residents with clear visual connections within the Station Area. The proximity of the 147th Street Station to downtown Apple Valley provides the unique opportunity to create clear and well-defined visual connections from the 147th Street Station Area to downtown promoting local businesses as well as public transit.

## Recommendation 5.2.1: Create and enhance sightlines to the 147th Street Station

Key sightlines to and from the 147th Street Station will provide residents and visitors with a clear visual connection to the Station. As redevelopment opportunities arise, sightlines should be maintained, enhanced and created to further promote the 147th Street Station. Additional consideration should be given to the creation, maintenance and enhancement of clear sightlines to Station Area attractions, businesses and amenities.



View of future 147th Street BRT stop location, looking east

Recommendation 5.2.2: Incorporate wayfinding signage at the 147th Street Station and at main Ring Route intersections

As Station Area construction and investment occurs, wayfinding signage should be incorporated at main intersections. Wayfinding signage highlights key attractions, reduces visitors' frustration, improves traffic flow, and improves roadway safety.



[www.greenbarnes.co.uk](http://www.greenbarnes.co.uk)



Silver Lake Village, St. Anthony, MN

Recommendation 5.2.4: Encourage place-making architecture within the Station Area

Gertrude Stein once said, “There is no there there.” In that quote, she was referring to a “placeless” place, or an area filled with structures that could be anywhere. Suburbs are often criticized for their “placelessness” because the convenience stores, strip malls, and housing developments look very similar to neighboring suburbs and lack unique, identifiable features. But in fact, many suburbs have been successful in creating a sense of place, or a community with identifiable structures.

Local examples include:

- Fridley’s Medtronic campus
- Hopkin’s downtown
- Eden Prairie’s Marketcenter water tower clock
- Maple Grove’s Shoppes at Arbor Lakes
- Shoreview’s gateway signs

In the next 5, 10 or 20 years, what will be Apple Valley’s identifiable feature? Will it be known as the city with skyways? The city of brick? The city of apple trees? Or the city with a [Times Square?] clock tower? Whatever Apple Valley residents desire their city to be known for in the future, the City should encourage place-making architecture to make the vision a reality.

The upcoming redevelopment of the Station Area provides the perfect opportunity for Apple Valley to encourage place-making architecture that marks the entry into the Ring Route, unifies downtown, and creates a “sense” of arrival upon entering Apple Valley.



# CHAPTER

*“In matters of truth and justice, there is no difference between large and small problems, for issues concerning the treatment of people are all the same.”*  
-Albert Einstein

# Social Equity

Social equity can be described as equal access to resources and an equal opportunity to partake in public processes. This can be accomplished through supporting diversity, meeting the basic needs of all residents, and investing in social and human capital. This portion of the sustainability prism is often seen as the soft infrastructure that promotes community and ensures a high quality of life for all members of the community.

Development patterns and community design that are considerate of, and informed by, all community members is socially equitable. As redevelopment opportunities within the 147th Street Station Area arise, the City must remain inclusive of all members by engaging the public and gathering input for the design, implementation and monitoring processes of the Station Area.

Data from the City and County indicates that there is a housing imbalance within the Apple Valley. Creating a sustainable housing balance will mean providing multiple housing options for residents of incomes and life stages that are within reasonable reach of the BRT line and the 147th Street Station.

Access to services within the Station Area is important to its success. The Station Area is well served by many services, such as retail and medical, but the service needs may change or demand may increase with the addition of BRT and the associated

redevelopment of the Station Area. Maintaining accessibility to services in the Station Area during and after redevelopment will be an essential aspect of promoting social sustainability.

## THE GUIDING PRINCIPLES OF SOCIAL EQUITY ARE:

- PROMOTE PUBLIC PARTICIPATION AND CIVIC ENGAGEMENT
- PROVIDE HOUSING CHOICES FOR PEOPLE OF ALL INCOMES AND LIFE STAGES
- MAINTAIN THE SOCIAL WELL BEING OF ALL COMMUNITY MEMBERS



## PRINCIPLE 6: PROMOTE PUBLIC PARTICIPATION AND CIVIC ENGAGEMENT

Participation in civic projects and decision-making is necessary to develop a community-based planning process that builds local capacity. Community members that live and work in the Station Area have local knowledge and can provide additional information that those not living or working in the area may not have. A well thought-out and executed planning process will ensure that residents and other stakeholders are involved and their input is valued. Civic engagement allows all members of the community to have a voice, builds lasting connections, and results in resilient and strong communities that can stand the test of time.

Given the discussion surrounding the BRT corridor, a public participation component to the redevelopment of the Station Area is critical. The 147th Street Station will affect not only the feel and flow of Cedar Avenue but also the businesses and residences in the area. A plan is needed that will balance the vast needs and visions for the corridor with the needs of the immediate and broader community.

### OBJECTIVE 6.1: CREATE OPPORTUNITIES FOR COMMUNITY ENGAGEMENT CENTERED AROUND THE 147TH STREET STATION AREA

Community engagement opportunities will bring the community together and build a strong public voice within the 147th Street Station Area. To accomplish this objective, new and innovative participation mechanisms should be developed.

Apple Valley currently employs traditional methods to engage community members in a variety of upcoming projects and plans. Methods for participation include community meetings and public hearings, and generally occur in the evening at the Apple Valley Municipal Center. According to City staff, public meetings are sparsely attended; on average, a dozen citizens may attend, unless the topic is particularly contentious. For example, 150 residents showed up to voice their opinions on a proposed cell tower in a neighborhood park, while no more than a few dozen attended meetings dealing with the city's Comprehensive Plan. Meetings related to the BRT have occurred, but once again, attendance has been minimal.

### Recommendation 6.1.1: Develop indicators for successful public participation

Indicators are high-level measurements that are used to evaluate whether or not a program is successful. Public participation indicators could be focused around the overarching objective to create opportunities for community engagement. Potential indicators could include the level of citizen participation throughout the design and implementation phases or the number of voices heard during public meetings. City staff and community members should work cooperatively to develop a full list of indicators that are specific and meaningful to the 147th Street Station Area.



## SUSTAINABILITY INDICATORS

Minneapolis has developed sustainability indicators for the entire city. The indicators are separated into three categories with a total of 26 indicators. The categories include: Health Life, Green Print, and a Vital Community. Their Vital Community indicators are those that address the social aspect of the community, and include indicators such as: New construction of 960 rental housing units affordable to families with incomes up to 50% of median family income; Reduce the percentage of employed Minneapolis residents living in poverty from the 2008 baseline of 10.1% to 7% by 2014(MFI); and Increase the average high school graduation rate to 80 percent by 2012 for students at the seven largest public high schools: Edison, Henry, North, Roosevelt, South, Southwest and Washburn.

Learn more at: <http://www.ci.minneapolis.mn.us/sustainability/indicators.asp>



**Recommendation 6.1.2:** Establish a citizen advisory team to actively participate in and facilitate the design and construction of Station Area improvements

Those directly affected by the Station Area should be represented on the advisory team. Residents, business owners, and any other individuals interested in the success of the 147th Street Station Area would be welcomed to serve their community as an advisory team member. Representing all interests within the 147th Street Station Area, the advisory team would act as the primary connection point between city and county staff and the community. Giving decision-making authority to the community will allow those affected by the construction and operation of BRT and associated redevelopment to have greater control over the evolution of the Station Area as well as create a sense of connection between affected parties and the overall Station Area. The creation of an advisory team dealing specifically with the Station Area could be the first of its kind in Apple Valley, and make the 147th Street Station stand out within the community as a model for future civic engagement processes.

**Recommendation 6.1.3:** Develop a written “citizen participation plan” that would provide details about how the community will achieve participation through planning processes for the Station Area

Through the citizen advisory team a “citizen participation plan” could be developed. This plan would be a detailed and clear account of the means and activities that would promote and enhance participation within the Station Area. This process



should be inclusive and incorporate input from all interested parties. Additionally, the plan could define the activities of the citizen advisory team, meeting dates and locations, as well as other means to engage members of the community and key stakeholders.

### Recommendation 6.1.4: Facilitate open houses and community gathering opportunities that are open and transparent

As planning processes related to redevelopment come to a close and the design and implementation phases begin, open houses will be an important tool to engage the public. Public meetings will allow those who are not on the citizen advisory team to be actively engaged and provide feedback. These meetings also provide the opportunity for open and inclusive communication between residents, businesses owners and City staff.

### OBJECTIVE 6.2: DEVELOP AN IDENTITY FOR THE 147TH STREET STATION AREA THAT IS RECEPTIVE TO ITS USERS

The 147th Street Station Area serves a spectrum of ages, incomes, professions, and backgrounds. Between 1990 and 2000, Apple Valley experienced large increases in both residents over the age of 65 and individuals of Hispanic origin. In addition, the Station Area includes a variety of housing preferences, including high and medium density townhomes, low-density homes, senior housing, and rental and home-occupied properties. Generally, residents of the high density and rental units are more difficult to engage, resulting in a lack of representation in decision-making principles regarding the built form. A receptive approach to creating

a sustainable and equitable identity for the Station Area will demonstrate commitment to area residents by including renter and other traditionally less involved groups' perspectives and values into the planning process. The result of this would be a Station Area that all community members can identify with.

### Recommendation 6.2.1: Host community meetings focused on branding the 147th Street Station in a manner that unifies the community

A community visioning and engagement process could be utilized to establish and build an identity for the 147th Street Station Area that is receptive to the changing views and demographics of the community.

While MVTA has developed its own brand for the BRT corridor, the 147th Street Station could have its own identity, making it a unique destination along the BRT line. Branding could include Station Area-specific signage or artwork that community members feel evokes a sense and identity (see also Recommendation 4.3.4). All community members should be encouraged to share their vision and preferences in the “community visioning” process of the Station Area identity design. Individuals who are engaged in this process will likely have a greater, long-standing interest and connection to the Station once the process is complete and the plan is realized.



### COMMUNITY VISIONING

Local Example of community visioning: The Hiawatha Light Rail Transit Line had a Community Advisory Committee (CAC) that advised the leading committee on many neighborhood issues including station land use, station design, and potential effects of the station on residents and business owners. The volunteer participation of members of the CAC helped shape the vision and plans for Hiawatha Line. (Insert photo of Hiawatha project)



[www.weberplanning.com](http://www.weberplanning.com)

**Recommendation 6.2.2:** Maintain and foster diversity within the community through targeted and thoughtful outreach

Apple Valley is becoming increasingly diverse. In 1990 the non-white population was 3%; in 2000 this number rose to 8% and further increased to 16% by 2010. Since 1990 the non-white population has increased by 13% leading to greater diversity throughout the

city. Targeted outreach to encourage participation from the full spectrum of area residents will ensure contributions to identity creation within the 147th Street Station Area are representative. This plan proposes significant changes to the land uses within the Station Area. Early identification and inclusion of unrepresented populations who will be potentially affected by these changes will be important. Participation mechanisms that actively engage these communities will ensure all voices are heard and ideas considered.

### PRINCIPLE 7: PROVIDE HOUSING CHOICES FOR PEOPLE OF ALL INCOME AND LIFE STAGES

Apple Valley has approximately 19,600 housing units; the majority of these units are single-family homes. A sustainable 147th Street Station Area would include not only development and land uses that cater to low density, single family homes, but a variety of housing preferences. Redevelopment of the Station Area will provide an opportunity to address the lack of affordable housing in Apple Valley, as well as promote life-cycle housing due to its proximity to transit, compact development and access to many services.

#### EXAMPLES OF LIFE CYCLE HOUSING INCLUDE:

- Rental housing for young adults without the interest or financial capacity in home ownership
- Maintenance free housing for empty nesters
- Housing with supporting services for seniors
- Transit oriented housing choices

A 2005 report, which was included in The Comprehensive Plan, *Comprehensive Housing Needs Assessment*, detailed several important points about the future housing growth in Apple Valley:

- The demand for new housing in Apple Valley between 2000 and 2030 is projected to be 11,775 units, which is an increase of 58% from the 16,536 units in 2000.
- This housing demand consists of 7,990 owned (for sale) and 3,785 rental units.
- The 2000-2030 demand for rental housing is divided between market rate (1,875 to 2,225 units), affordable (470 to 630 units) and senior (1,105 to 1,270 units). (pg 3-13)

The Dakota County Community Development Association (CDA) is the local unit of government specializing in housing services for low- to moderate-income families. The CDA has many programs and services that can assist cities and individuals with their housing needs. Apple Valley has a long-standing relationship with CDA and the continuation of this relationship will be an important aspect of a sustainable 147th Street Station Area.



Dakota County CDA building, [www.dakotacda.org](http://www.dakotacda.org)

### OBJECTIVE 7.1: ENHANCE AND ENSURE AFFORDABLE HOUSING OPPORTUNITIES WITHIN THE STATION AREA

According to the U.S. Department of Housing and Urban Development, affordable housing is defined as spending no more than 30% of one's income on rent or mortgage. The CDA defines affordable housing for renters and owners as at or below 50% and 80% of the median income, respectively. Not having access to affordable housing causes stress and hardship on individuals and families desiring to live near transit stops, which can cause inequities in not only social well-being, but economic sustainability as well.

As stated in The Comprehensive Plan, there is a lack of affordable housing within the city. An estimated 86% of residents own their home within the city. In 2007 the threshold for home ownership was approximately \$206,000.<sup>7</sup> Approximately 79% of the housing in Apple Valley has an estimated median value greater than the threshold, posing a significant challenge to home ownership for low to moderate-income residents. Currently demand for increased access to affordable housing is unmet and this trend is expected to remain in the coming years.

The current affordable housing stock within Apple Valley is approximately 21%. The number of affordable housing units is expected to increase in the coming years; not only because of market demand, but also because Apple Valley will be required to meet their fair share of affordable housing units (as defined by the Metropolitan Council). Introducing affordable housing options near the 147th Street Station will ensure an adequate

and considerate representation of the plethora of income levels desiring to locate near transit is present.

The Metropolitan Council has forecasted and allocated 1,307 affordable housing units for the city of Apple Valley to absorb between 2011 and 2020. Metropolitan Council has the overarching goal for communities to reach a 75/25 ratio of owner to renter occupied units. Apple Valley has a housing ratio of 87/13, meaning that the City is lacking in their fair of affordable housing. This plan will address this shortage by incorporating a balance of renter and owner occupied residential housing units, as well as affordable housing options within each.

**Recommendation 7.1.1: Ensure affordable housing is incorporated in all new residential development**

In order for affordable housing to be a viable option, direct connections to services and transportation are required. The Station Area is already home to many jobs, commercial, and retail services, and will soon have increased access to transit. The integration of affordable housing near the 147th Street Station will improve accessibility to goods and services and increase the quality of life for low and moderate-income families.

**Recommendation 7.1.2: Explore the opportunity to create a TIF Housing District within the Station Area to incentivize developers to build affordable housing**

Apple Valley works with the CDA to ensure a variety of housing options remain available, equitable and affordable throughout the community. The private market can also be a strong partner in the creation of affordable housing. To better promote and incentivize the private market to build affordable housing the City could implement a Tax Increment Finance (TIF) Housing District. This specified area would provide a tax benefit for developers who bring affordable housing options to the Station Area, therefore making affordable housing financially feasible.

Apple Valley with support from Dakota County CDA has used TIF Housing Districts in the past with success. Examples include Hearthstone Apartments and Hidden Ponds.



[www.hearthstoneapts.com](http://www.hearthstoneapts.com)



[www.nsresidential.com/hiddenw](http://www.nsresidential.com/hiddenw)

**Recommendation 7.1.3:** Proactively encourage the provision of affordable housing through policy direction that positions affordable housing as a community benefit

There are many benefits from affordable housing that contribute to a sustainable community. Affordable housing provides housing for a diverse local workforce, promotes economic and social integration, and provides a direct investment in the local economy through the demand for goods and services. Affordable housing also allows long time residents to stay in their community during life changes such as divorce, retirement, or recovery from a long-term illness.<sup>8</sup>

### OBJECTIVE 7.2: INCREASE LIFE-CYCLE HOUSING OPPORTUNITIES

Apple Valley has stated that future housing issues go beyond simply ensuring opportunities for affordable housing; they also include promoting maintenance and reinvestment in the current housing stock and providing housing for all life stages, preferences, and circumstances. Providing life-cycle housing choices within the 147th Street Station Area will allow all residents, new and old, the option to live closer to transit and associated amenities. Living within walking distance of transit has many positive externalities, namely, promoting an active lifestyle and reducing the need to drive.

Dakota County and Apple Valley are currently dealing with a phenomenon known as “aging-in place”. As the population ages, the City has to deal with the uncertainty of not knowing where and how the aging population will want to live. Apple Valley will

need to offer services and housing options that not only address the needs of and desire to retain existing senior residents, but also attract new senior populations; especially given their unique dependence on transit. One example is to construct houses with a “no-step” entryway.

Aging-in place can be defined as “households that would otherwise move to accommodate a growing family or to meet the needs of a changing lifestyle choose instead to remain in their existing homes.”<sup>9</sup> Residents are staying in their homes longer and there is less housing turnover and less viable options for younger and new residents. To combat this problem, new construction can take place.



“No-step” entry homes in Silver Lake Village, St. Anthony Village, MN

Apple Valley Villa Senior Apartments and Augustana Health Care of Apple Valley, a senior living complex, is located 1/3 mile north and east of the planning Station Area. This housing option for seniors is valued within the community, so maintaining the connectivity to services and transit is important to social equity. The 147th Station Area provides an opportunity to develop additional housing options for seniors and active older adults.



Augustana Health Care Center, Apple Valley, MN

Offering a mix of housing preferences extends beyond the senior population. Housing trends suggest that younger couples, singles, and families are choosing housing options that are smaller in scale, locate close to transit, walkable, and have greater energy efficiency.<sup>10</sup> Nearly one third of Gen Y, those born between 1980 and the early 2000s, are willing to pay more to be close to transit and don't want to live in cookie-cutter developments like their parents.<sup>11</sup>

By incorporating a balance of housing densities in a concentrated area individuals of all types will be attracted to this new form of

suburban development. The convenience and connectivity that the BRT line offers will attract baby boomers as well as young professionals to the Station Area.

**Recommendation 7.2.1:** Allow for a minimum of 12 units per acre or a density bonus that allows for an increase in the number of residential units over what is permitted by the underlying zoning

Apple Valley is currently a participant in the TIA program offered through DEED. In order to qualify for this program and receive funding for future land improvements, the area is required to propose at least 12 residential units per acre or allow for a density bonus. Other requirements for TIA funding include close proximity to transit, incorporation of mixed-use development that is safe and pedestrian friendly. Dwelling units of 12 units per acre could include apartments or condos and be a mix of market rate and affordable housing. Meeting this simple residential housing requirement for within the Station Area will position the 147th Street Station for future funding opportunities.



Central Village, Apple Valley, MN



Recommendation 7.2.2: Include a mix of housing options including, but not limited to, rental apartments, condos, and townhomes

The 147th Street Station Area will be an ideal location to address many of the life-cycle housing concerns that the City has identified. The proposed mixed-use development land uses in the Concept Plan will provide the opportunity for affordable and market rate housing to be jointly integrated. With the compact infill development and redevelopment of the Station Area, dense development (approximately 6-12 units per acre) will be supported, which will provide the City the financial access to Transit Improvement Area (TIA) funds forecasted by DEED.

### PRINCIPLE 8: MAINTAIN THE SOCIAL WELL-BEING OF ALL COMMUNITY MEMBERS

The social well-being of the community within the 147th Street Station Area is critical to the overall success of the Station Area. Residents, visitors, and businesses will want services that are accessible in a landscape that promotes social interaction, rather than acts as a barrier to interaction. Barriers within the Station Area include lack of public space and an auto dominated landscape that discourages walking. The Station Area should serve the community and provide opportunities for interaction between all residents and businesses. The positive interactions that could occur within the Station Area could improve the social well-being and build a strong sense of community.

The 147th Street Station is located at the heart of downtown Apple Valley and is well served by many services. However, the demand and access to these services will change as the Station Area develops. The impact of development on these services should be fully examined to ensure changes would provide positive benefits for the community.

#### OBJECTIVE 8.1: ENHANCE THE MENTAL AND SOCIAL WELL-BEING OF INDIVIDUALS WITHIN THE STATION AREA

Services that enhance and maintain the social well-being of individuals include, among others, access to education, affordable and reliable child care, and quality medical care. All too often, developments only consider the environmental impacts and neglect to consider impacts to the overall social cohesion of the community.

The health and strength of a community is directly tied to the health and well-being of its community members. Services that help people live a healthier and more balanced life should be made available. Within the Station Area, residents and employees should be able to access services such as education, medical services, childcare and libraries without having to travel great distances.

**Recommendation 8.1.1: Develop social justice sustainability indicators**

As mentioned in Recommendation 6.1.1, indicators are high-level measurements of program effectiveness. Social justice indicators should be based on their ability to provide feedback that will strengthen and support the community. Indicators should be developed with the support and engagement of the community.

**Recommendation 8.1.2: Complete a baseline assessment of social service needs within the Station Area to ensure service levels remain high or levels are increased to meet the demand**

The 147th Street Station Area is well served by many public services, including the Galaxie Library, Apple Valley Medical Center, fire and police force. With the density and housing increases proposed in this plan, additional services will be required on a per capita and geography basis.

During the process of full build out and redevelopment there will be an incremental increase in people living and working in the Station Area. A yearly baseline assessment of the current and

forecasted level of service should be completed to determine the type and quantity of public services that should be added to the Station Area.

One service area likely to be effected by the proposed increase in residential housing within the Station Area is education. An increase in the number of school-aged children, within the 147th Street Station Area will create added pressure on the current educational system of Apple Valley. School Districts will need to ensure sufficient space for additional children and bus service for youth are provided within or in close proximity to the Station Area.



Dakota County Liibrary, Apple Valley, MN



**Recommendation 8.1.3:** Develop and complete a Social Justice Impact Statement to fully consider the impacts the proposed development would have on the community

Many developments are subject to Environmental Impact Assessments (EIS); a requirement meant to analyze and consider all potential effects the development will have on the environment. Even if not required, a parallel social development impact assessment could be used to evaluate the current service level and ensure proposed development fully considers all potential impacts to the community. By completing this type of analysis, Apple Valley could be a leader and set a standard for ensuring all impacts are considered, even many intangible impacts that affect communities.

Alaska was pioneer in the movement to consider not only environmental but the social impacts for projects. The Inupiat community in Alaska completed the first Integrated Health Impact Assessment, which evaluated the health and social impacts in the United States.<sup>12</sup>

**Objective 8.2:** Ensure Land Impacts are Non-discriminatory

For the 147th Street Station to prosper, the built environment needs to support and foster community interaction and cohesion. The land use within the Station Area should also improve connections to public spaces, residences and businesses

to encourage social interaction for all ages and abilities. The land use patterns should enhance not exclude people from moving through the Station Area.

**Recommendation 8.2.1:** Ensure pedestrian enhancements are considerate of all ages and abilities

Pedestrian safety enhancements, as described in Recommendation 3.2.3, are one way to create a friendly pedestrian environment. Other considerations include ensuring sidewalks are ADA compliant, curb cuts at all intersections, and verbal and sight signage at crosswalks. Improvements to the landscape could include, but are not limited to: pedestrian refuge islands, seating opportunities, bump-outs to slow traffic, and ensuring streets are kept clean and clear of debris.



France Avenue and Old Shakopee Road, Bloomington, MN

Recommendation 8.2.2: Work with the Apple Valley Teen Center to establish a youth committee to ensure the youth perspective is captured

The Station Area lacks activities for local youth and teen populations. Specifically, there are sparse open spaces, and no public parks within the Station Area to serve community members. By actively engaging the underserved populations, youth, and businesses, the Station Area will have a direct connection and vested interest by those it serves. The Apple Valley Teen Center has an active group of teens that could become more engaged in their community by ensuring that their views and perspectives are integrated into the creation of socially equitable and sustainable Station Area.



[www.prairienet.org](http://www.prairienet.org)



# CHAPTER

*“The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased; and not impaired in value.”  
-President Theodore Roosevelt*

# 6

# Natural Environment

Environmental sustainability is achieved through planning by encouraging practices and patterns of development that limit the loss of natural lands, and protect and enhance the natural systems that exist within our communities. While our communities are becoming increasingly urban, we continue to depend on the benefits Nature provides for our survival. Water and air filtration, a rich diversity of plants and wildlife, and climate stabilization, are examples of the numerous services Nature provides.

From concerns over climate change, to water quality, to energy consumption, society faces serious environmental issues locally, regionally, and globally. These issues affect the quality of life for residents today, and will for years to come. There is a growing body of evidence that suggests a major shift in human behavior, particularly how we design the spaces we inhabit, is necessary to overcome years of overconsumption and environmental degradation. Fortunately, we are continually learning about the impacts of development and developing the technological capacity to mitigate them.

The City of Apple Valley has recognized the need for environmental protection in order to maintain the high quality of life that residents enjoy:

*“The natural environment makes a significant contribution to an attractive community image and quality of life. It is*

*important that the significant natural features be protected and enhanced when practical and feasible to the greatest extent possible where the need is evident.” (4-7)*

Apple Valley’s efforts to become more sustainable were reasserted by Mayor Mary Hamann-Roland in the 2008 Apple Valley State of the Community Address. Mayor Hamann-Roland declared she “Would like Apple Valley to be known as a green and sustainable community, with all the growth we are experiencing, we need to think long-term to ensure support of the natural resources in our city and our environment.”

The introduction of BRT along Cedar Avenue presents a unique opportunity for the City of Apple Valley to make significant progress towards meeting its environmental goals. The development of a strong transportation infrastructure will reinvigorate the interest of developers and business owners looking to capitalize on close access to public transportation. Redevelopment is an opportunity to ensure the utilization of new technologies designed to minimize the negative environmental impacts of development, promote more sustainable patterns of land use, and expand upon educational programs intended to raise awareness about environmental protection.



The natural resources and environment section has been split into four guiding principles. These guiding principles have been tailored to The Station Area based on a review of existing site conditions, opportunities and constraints associated with the introduction of the BRT, as well as key issues discussed in The Comprehensive Plan. Additionally, existing programs and partnerships were reviewed to reveal opportunities and constraints unique to The Station Area. In support of each guiding principle, recommendations that are pertinent to sustainability planning at The Station Area scale are outlined in more detail.

THE GUIDING PRINCIPLES OF THE NATURAL ENVIRONMENT ARE:

- REDUCE ENERGY CONSUMPTION AND ADDRESS CLIMATE CHANGE
- PROTECT NATURAL RESOURCES AND ENHANCE ECOLOGICAL SYSTEMS
- PROMOTE GREEN BUILDING
- EDUCATE THE COMMUNITY ABOUT ENVIRONMENTAL STEWARDSHIP

PRINCIPLE 9: REDUCE ENERGY CONSUMPTION AND ADDRESS CLIMATE CHANGE

Climate change is one of the most pressing environmental issues of our day. Consensus within the scientific community, supported by a growing body of evidence, suggests that global warming is a threat to both the environmental and economic health of our communities. Potential risks include rising average temperatures and an increase in the severity of storm events. Both of which could potentially pose threats to human life, as well as increase costs for municipalities who need to update infrastructure to accommodate changing conditions.

Climate change is caused primarily by the release of greenhouse gases into the atmosphere. Greenhouse gases heat the atmosphere by trapping and reemitting infrared radiation, or heat, which would otherwise escape to space. In the United States, the combustion of fossil fuels for energy production is the largest source of green house gas emissions. Fossil fuels are used in a variety of applications, primarily heating and cooling of buildings, powering automobiles, and providing electricity.

Many American cities have decided to proactively address the threat of climate change by encouraging more climate-friendly development, like TOD. Apple Valley, under the direction of Mayor Hamann-Roland, signed the U.S. Conference of Mayors Climate Protection Agreement. This agreement; which as of 2011 had over 1,000 pledges from mayors in the United States, the District of Columbia, and Puerto Rico, is a pledge to advance the goals of the Kyoto Protocol through leadership and action. The



Kyoto Protocol is an international agreement that sets binding greenhouse gas emission reduction targets for countries who agree to its terms.

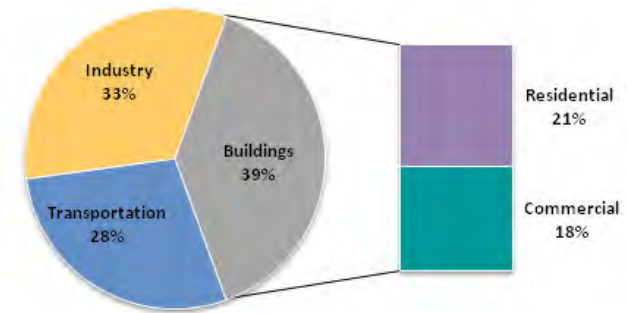
For many cities, climate change mitigation efforts display a clear commitment to combat a global problem, but there is also a silver lining locally; these efforts can be opportunities to improve air quality and promote active lifestyles at home, improving public health and reducing obesity.

Under the Mayors Climate Protection Agreement, participating cities commit to take following three actions:

1. Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns;
2. Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol -- 7% reduction from 1990 levels by 2012; and
3. Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system.<sup>13</sup>

### OBJECTIVE 9.1: INCREASE BUILDING ENERGY EFFICIENCY

Every year, buildings account for roughly 40% of all the energy used in America.<sup>14</sup> A large majority of this energy is used for heating, cooling, and lighting. Increasing building energy efficiency has become a popular strategy to combat climate change because it can reduce greenhouse gas emissions while reducing energy costs.



U.S. Department of Energy

In Apple Valley, the Apple Valley Municipal Liquor Store has proven how adopting green technologies can be beneficial to the environment and the bottom line. A suite of strategies designed to reduce energy consumption is highlighted by a geothermal heating and cooling system that extracts energy from the ground to heat and cool the building. In 24 months, the store saved more than \$36,000 dollars in energy costs, and that number is expected to grow as energy prices climb.<sup>15</sup>

**Recommendation 9.1.1:** Ensure that 100% of businesses and homeowners within the Station Area are aware of the energy saving programs and resources available to them

According to Apple Valley's website, roundtable discussions between Apple Valley business leaders and the Chamber of Commerce revealed that connecting businesses to efficiency rebates and utility programs is an opportunity to further increase building energy efficiency within the city. Currently, several programs exist that are available to businesses and homeowners located within The Station Area.

Residential homeowners have access to Apple Valley's Better Energy Program. The Better Energy Program provides heavily subsidized goods and services to homeowners including home energy audits, and low cost energy saving technologies like compact fluorescent light bulbs. Currently, a Better Energy Program for businesses is under development. Dakota Electric and Centerpoint Energy both currently offer energy-saving services specifically tailored to businesses. These services include, but are not limited to, building energy audits, site design consultation, and rebates for geothermal heating and cooling systems. Utilizing these programs, businesses in Apple Valley have already completed over 100 projects which have cut annual energy bills by \$285,000 dollars.<sup>16</sup>

Recent advances in solar energy and geothermal heating and cooling have brought the cost of these technologies down; however, opportunities for large scale energy savings may still be hindered by upfront investment costs. Low interest loans

can empower customers to make significant improvements that might otherwise be outside of their budget range. Dakota Electric offers low interest loans to businesses through its Energy Efficient Equipment (E3) Financing Program. This program provides loans ranging from \$20,000 to \$350,000 to cover the purchase and installation of energy saving technologies (Association 2008). Additionally, Dakota Electric offers grants to their commercial or industrial customers who propose projects that meet specific criteria.

**Recommendation 9.1.2:** Encourage planting of large canopy shade trees along the south and southwest facades of buildings

Trees can be planted strategically to reduce heating and cooling costs. In Minnesota, there are numerous deciduous tree species that provide shade for buildings during hot summer months, yet allow sunlight to pass through during cold winter months after they have dropped their leaves. In the summer the trees provide shade, cooling indoor temperatures as well as surrounding areas, reducing the need for air-conditioning. In the winter, sunlight is allowed to pass through the tree canopy providing warmth and reducing heating costs. Strategically planted trees can also slow wind speeds which reduces air leakage and heat loss. In Minnesota, the southern and southwest facades of buildings are most exposed to the sun; planting trees along these facades will provide the most benefits.



Aerial photograph of northwest downtown Apple Valley, MN

Several large buildings within the Station Area have little or no vegetation surrounding them and are fully exposed to the elements.

**Recommendation 9.1.3:** Actively promote the adoption of renewable energy technologies

Renewable energy is energy that comes from natural resources like the sun, wind, water, and earth, which are naturally replenished. Within The Station Area, there is great potential for the use of geothermal and photovoltaic solar energy systems. Despite the cold, the Minnesota Renewable Energy Society reports that the Twin Cities Metropolitan area experiences on average 196 sunny days per year. In fact, Minnesota has more solar energy

potential than Houston, Texas, and is just behind Miami, Florida. Photovoltaic solar panels that convert solar energy to electricity can be used to power buildings, streetlights, and numerous other devices.



Great River Energy Headquarters, Maple Grove, MN

Geothermal systems utilize the relatively stable temperature of the ground to heat and cool buildings. Air is typically pumped through a series of tubes buried in the ground that promote heat exchange. It is then pumped back into the building as needed. The Apple Valley Municipal Liquor Store has been successfully using a similar system since 2008.

The City of Apple Valley should actively promote the use of these renewable energy technologies by incentivizing developers, as well as by leading by example. Incentives could include density



bonuses, streamlined permitting processes, and an increase in the allowable FAR. In order to lead by example, solar panels could be installed on streetlights, as well as at prominent locations throughout The Station Area.

## Objective 9.2: Reduce Vehicle Miles Travelled

Automobile use contributes significantly to greenhouse gas emissions and energy consumption. In the United States, transportation accounts for 1/3 of all carbon dioxide emissions (U.S. Department of Energy 2011). The report *Growing Cooler: The Evidence on Urban Development and Climate Change* (Ewing et al. 2007) outlines how suburban development patterns have helped drive up the number of miles driven by Americans three times faster than the population since 1980. Currently, development within The Station Area is low density and amenities are spread out; characteristics which promote automobile use and discourage alternative modes of transportation such as walking, cycling, and public transit.

## Recommendation 9.2.1: Update zoning to promote denser, more diverse, patterns of development within The Station Area

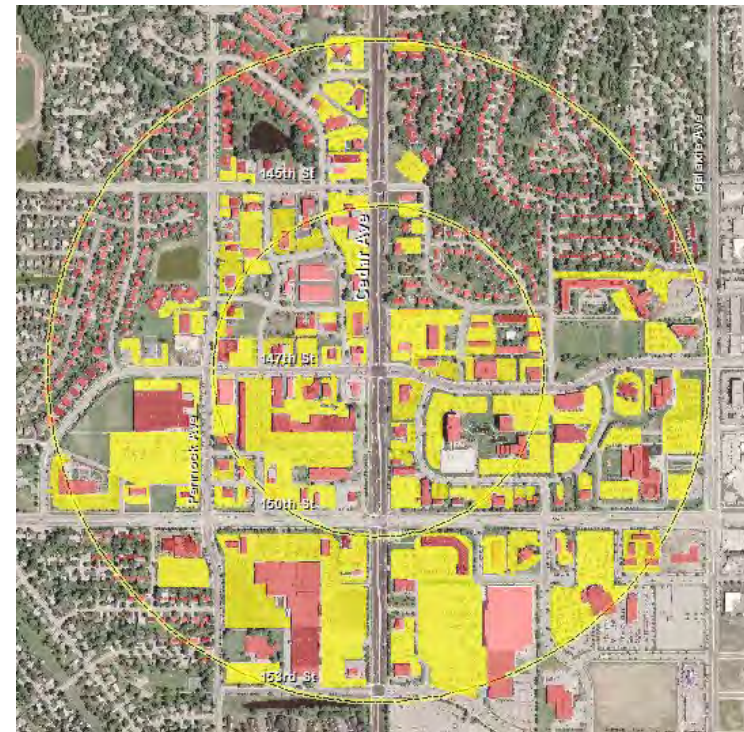
Creating denser, mixed-use development within The Station Area has the potential to decrease vehicle miles traveled (VMT) by reducing the distance between where people live, work, and shop. The key is to create places where people can accomplish more without having to get back into their car. Currently, future land use within The Station Area is designated primarily as commercial. Updating this zoning scheme to one that allows more residential

and mixed use development to occur near The Station Area will allow people to live closer to the stop itself and accomplish more destination-shopping via non-motorized transportation within The Station Area.

## Recommendation 9.2.2: Develop maximum parking requirements

Limiting the amount of parking available within the Station Area can also help reduce vehicle miles traveled. Currently, surface parking lots account for 28% (128 acres) of the entire Station Area.

The yellow portions of the map below indicate existing surface parking lots in the Station Area.



While Apple Valley seeks to avoid parking shortages by requiring developers to provide a minimum amount of parking spaces (Ordinance 155.379), these minimum parking requirements tacitly subsidize automobile use by allowing cars to be easily parked when not in use. Developing maximum parking requirements, which cap the number of parking spaces businesses must provide, will reduce the amount of land that must be dedicated to parking and discourage automobile use.

**Recommendation 9.2.3:** All new development, except single family homes, should provide secure bicycle parking

Providing adequate facilities for bicycles encourages cycling as a viable alternative to driving. Bicycle parking, typically racks, encourage cycling by allowing people to securely store their bike while shopping, or visiting The Station Area (see also recommendation 3.3.2). Businesses that provide bicycle parking may also see an increase in ‘ride up’ customers who otherwise would not feel comfortable securing their bicycle elsewhere.

**Recommendation 9.2.4:** Provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces

Providing preferred parking, parking that is close to building entrances and limiting the amount of available parking can encourage carpooling and other forms of alternative transportation. LEED® Neighborhood Design Guidelines recommend that 5% of the total provided spaces, excluding handicapped spaces, be reserved for carpools and vanpools. Although, these reductions should be carefully scrutinized on

a site by site basis in order to avoid promoting more on street parking. This is especially important in locations adjacent to existing neighborhoods.



[www.wppienergy.org](http://www.wppienergy.org)

### OBJECTIVE 9.3: REDUCE URBAN HEAT ISLAND EFFECT

Urban areas generally have significantly warmer temperatures than surrounding rural areas. This phenomenon is known as the urban heat island effect. Urban heat islands are generated when artificial surfaces are heated by sunlight. Materials such as concrete and asphalt are able to capture and store tremendous amounts of heat compared to natural landscapes. As temperatures cool at night, trapped heat is radiated back into the air causing urban areas to cool more slowly. This effect can increase air conditioning costs, air pollution levels, and heat and pollution-related illness and mortality. Hot concrete, asphalt, and roofs can also transfer excess heat to stormwater runoff. As this

water moves into streams, rivers, and lakes, it can cause rapid temperature changes that can be harmful to aquatic ecosystems.

**Recommendation 9.3.1:** Encourage developers to use natural landscaping where possible in place of asphalt, concrete, or similar materials

Aerial photos reveal that the Station Area is dominated by artificial surfaces and has very little vegetative cover, a stark contrast to the surrounding residential neighborhoods that have more densely developed tree canopies, as well as lawns, gardens, and other landscaped places. Increasing vegetative cover (see also recommendations: 10.1.2, 11.2.1, 11.2.3) is an effective strategy to combat urban the heat island effect as it reduces the amount of surfaces that can potentially trap excess heat.

Specific strategies include requiring a certain percentage of the non-building occupied area be landscaped, promoting green roofs, and open-grid paving systems. Green roofs use vegetation planted on rooftops to reduce heat absorption. Open grid pavers incorporate grass, or other low growing plants, into a matrix of asphalt or concrete.



Aerial photograph of the Station Area; commercial left, residential right

This photo reveals significant differences in landscaping between commercial and residential areas within The Station Area.

**Recommendation 9.3.2:** Ensure the surface of 75% of all paving materials and structures have a solar reflectance index of at least 29; ensure these surfaces are cleaned at least every two years to maintain good reflectance

The U.S. Green Building Council uses a composite index called the solar reflectance index (SRI) to estimate how hot a surface will get when exposed to full sun. SRI values can vary from 100 for a surface that absorbs little heat to 0 for a surface that retains as much heat as possible. Typically, lighter colored surfaces reflect more light, absorbing less heat throughout the course of a day.

For example, paving with light colored concrete, can reflect up to 50% more light than asphalt. Painting the roof of a structure white has a similar effect. More information on the SRI of various materials can be found within LEED® for New Construction & Major Renovations available from the U.S. Green Building Council.

Where landscaping can't be used, materials with an SRI of at least 29 should cover at least 75% of all surfaces. Many types of concrete, solar panels, and other reflective surfaces meet this requirement. It is important to clean these surfaces regularly as the build-up of dirt, and grime, can reduce the SRI dramatically.

## PRINCIPLE 10: PRESERVE AND ENHANCE ECOLOGICAL SYSTEMS

Within the Station Area, the natural environment has been significantly altered by development and natural resource conservation opportunities are limited. However, preserving and enhancing the ecological systems that do function within the Station Area can reduce the negative environmental impacts of development, capture and retain ecosystem services, and contribute to a higher quality of life.

### OBJECTIVE 10.1: PROTECT WATER QUALITY

Urban development disrupts the hydrologic system, or cycle of water movement. In natural areas, after rainwater falls to the ground, it infiltrates into the soil, is absorbed by plants, evaporates, or moves into other surface waters. This natural process filters water and helps maintain its quality. The conversion of natural land to impermeable surfaces such as parking lots or building roofs, impedes this cycle. As water moves along these surfaces, it collects pollutants that can damage ecosystems and are a threat to public health. Typical pollutants include sediments, oil distillates from automobiles, chemical pesticides and fertilizers, and salt from deicing practices.

As the effects of development on surface water quality and the resultant downstream impacts have become more understood, serious management efforts have been undertaken. The City of Apple Valley currently has several programs in place to reduce the effects of development on water quality and protect vulnerable areas from flooding.



**Recommendation 10.1.1:** Provide incentives for developers who exceed performance standards outlined in the SWMP

The Surface Water Management Plan (SWMP) for the City of Apple Valley (2007) guides the management of surface water quality throughout the city. This document outlines a comprehensive approach to surface water management, defining performance standards for new development, as well as outlining specific steps to ensure compliance with the Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES), which controls the discharge of pollution into surface waters throughout the United States.

Developers should be incentivized to exceed the performance standards outlined in the SWMP. Potential incentives could include density bonuses, streamlined permitting processes, and an increase in the allowable on-site FAR.

**Recommendation 10.1.2:** Encourage the use of permeable pavers in lightly traveled pedestrian and vehicle surface areas

Creating pathways for water to re-enter the ground can alleviate pressure on the stormwater system and reduce the amount of contaminants that are washed downstream. Directing water towards landscaped areas is a common method used to promote better infiltration of surface water into the soil. Within the Station Area, CVS Pharmacy recently installed a 'rain garden' on the corner of 151st Street and Galaxie Avenue to collect stormwater. Although, converting large portions of the Station Area to landscaping is improbable if space becomes limited as hard surfaces are often needed in urban areas.

Permeable pavers allow water to pass through them, yet provide a solid surface upon which typical urban activities can take place. Permeable pavers can be used in place of concrete or asphalt for most purposes, yet they do require more maintenance than traditional paving materials. Permeable pavers have to be cleaned regularly to ensure that the channels for water to pass through remain clear and the edges of the pavers sometimes cause problems for snow plow equipment. As the Station Area develops, permeable pavers could be used for walking and pedestrian paths, as well as plazas and other areas not used heavily by automobiles. The majority of parking lots within the Station Area are vast, and cars tend to cluster in areas close to business entrances. Lesser used areas, overflow parking areas, or areas adjacent to parking lots that do not have to be plowed regularly, could utilize permeable pavers to catch water running off of primary parking areas.



[www.pavestone.com](http://www.pavestone.com)

**Recommendation 10.1.3:** Restrict the use of chemical fertilizers and pesticides for landscaped areas; require private landowners to regularly perform street cleaning of surface lots

One of the simplest ways to protect water quality is to reduce the input of contaminants. Pesticides and fertilizers applied to landscaping, household cleaners, trash, and other small debris, can persist in the environment and damage sensitive ecosystems when they are washed downstream. Restricting the use of chemical pesticides and fertilizers, and requiring businesses to regularly clean surface lots, will reduce the threat of contamination.

Apple Valley already has a strategic street sweeping system in place to help alleviate pressure on impaired bodies of water. Expanding this program to encompass privately owned lots has the potential to greatly increase water quality throughout the Station Area.

**Recommendation 10.1.4:** Expand volunteer storm drain stenciling efforts to The Station Area; make sure 100% of drains that are visible to public are stenciled

Apple Valley relies on volunteers to re-stencil storm drains once the initial stencil painted by the City has worn off. Most of these efforts have been concentrated within residential neighborhoods, and, at any given time roughly 10% of the storm drains in the Station Area have stencils that are still visible. Storm water drain stencils are an important way to educate the community that water and pollutants that enter these drains is not treated before it enters local water bodies.



Unstenciled storm drain in Central Village, Apple Valley, MN

## OBJECTIVE 10.2: INCREASE URBAN TREE CANOPY

Collectively, all of the trees in Apple Valley comprise an urban forest. This forest supplies many benefits to the community. It provides shade, which extends the life of asphalt and concrete, reduces energy costs associated with heating and cooling, filters air, removes greenhouse gases, and contributes significantly to the quality of life.

Currently, Apple Valley has strict regulations that protect existing trees (AV Ordinance 152.23). These regulations limit the removal of trees from development sites as well as mandate replacement requirements for trees that are lost.



**Recommendation 10.2.1:** Set benchmarks for urban tree canopy, 40% is recommended

Canopy cover, the amount of space that is covered by trees if viewed from above, is a convenient measure that is used to measure urban forests. American Forests, a non-profit organization dedicated to protecting America's forests, has suggested that achieving 40% canopy cover within urban areas in the Midwest can have significant environmental benefits. For instance, the City of Chicago found that increasing canopy cover by 10% reduced the total energy for heating and cooling by \$50–90 per dwelling unit per year.<sup>17</sup> Protecting and enhancing the urban forest within Apple Valley could be a viable strategy to achieve similar reductions. Setting a tree canopy goal for the Station Area would ensure that this valuable asset is maintained at a minimum threshold as the area continues to develop and land use becomes denser.

**Recommendation 10.2.2:** Update Street Tree Inventory to include canopy cover

The City recently completed an inventory of all the street trees within Apple Valley. This inventory is designed to allow natural resource managers to make better decisions in order to protect this valuable resource. The inventory contains information about the locations, type, and diameter breast height of each tree. It does not contain canopy information. Updating the inventory to include information about canopy cover would allow the City to track its progress in meeting canopy cover goals.

**Recommendation 10.2.3:** Research ways to allow trees along the Ring Route to grow to maturity

The Ring Route is planted with a nearly continuous ribbon of trees. These trees, however, are not allowed to grow to maturity. The areas in which they are planted do not allow the roots systems to become fully developed, and the trees are removed before they reach maturity in order to prevent damage to the underlying infrastructure. On average, 25 trees per year are replaced along the Ring Route. Developing underground infrastructure that allows these trees to become fully developed would increase canopy cover as well as help define the Ring Route and downtown Apple Valley.



Young trees along the Ring Route, Apple Valley, MN



#### MATURE TREES & STORMWATER MANAGEMENT

Made of an ultra high strength glass and polypropylene, the Silva Cell® is a modular building block for containing unlimited amounts of soils beneath paving and hardscapes while supporting traffic loads. The healthy soil housed within the Silva Cell serves two important functions: growing large trees and treating stormwater on-site.

Learn more at: [www.deeproot.com](http://www.deeproot.com)

#### OBJECTIVE 10.3: PROMOTE NATIVE LANDSCAPES

Native plants are plants that occur naturally, or have existed for many years, in a particular area. The use of native plants for landscaping is gaining popularity because they provide several advantages compared to using non-native species. Generally, they require less maintenance, less water for irrigation, and less chemical inputs. Native plants also attract beneficial insects including pollinators, and provide habitat for animals. In Minnesota, the use of prairie grasses instead of turf promotes better infiltration of water into the soil. Prairie grasses developed long roots in order to survive frequent disturbance from fire and grazing. Amazingly, two thirds of most prairie plant species are below ground. The roots of big bluestem may be 7 feet long, and switch grass roots can be 11 feet long while the roots of most turf species extend only a few inches below ground. These long roots create pathways in the soil for water to move and re-infiltrate into the ground.

**Recommendation 10.3.1:** Require 50% of landscaping be native plant species

This minimum requirement is well suited for the Station Area as landscaping is often restricted to small, isolated habitat patches that will not support large quantities of wild life. A 50% requirement allows for flexibility for those who seek more traditional looking landscapes as native plant species often do not produce the desired visual effect that landowners are seeking to achieve.



Peter Baslianelli kerze

Dalseth Dental, Apple Valley, MN

Dalseth Dental is an example of a business within the Station Area that has used native plant species for their landscaping needs. The business is surrounded by native prairie grasses designed to capture rainwater from the roof.

## PRINCIPLE 11: PROMOTE GREEN BUILDING TECHNIQUES

Green buildings are buildings that are designed to be environmentally-friendly and resource-efficient throughout their life cycle. Green buildings offer a host of environmental benefits ranging from promoting the use of sustainable building materials to reducing energy consumption. Today, there are numerous agencies that certify buildings as green. LEED (Leadership in Energy and Environmental Design) is a certification system that is sponsored by the U.S. Green Building Council and was among the first third party certification systems offered. Since the inception of LEED, many other certification systems have arisen.



There are several notable examples of green building in Apple Valley: The Apple Valley Municipal Center, Dalseth Dental, and the Apple Valley Municipal Liquor Store recently showcased in the Star Tribune. The Apple Valley Municipal Center is located in downtown Apple Valley. It was created when an existing police station was expanded to include other city functions. During the expansion, the Municipal Center was designed to maximize worker health and safety while redeveloping an existing building enabled the city to minimize the economic and environmental impacts of additional development.

#### OBJECTIVE 11.1 DEVELOP GREEN BUILDING STANDARDS

Recommendation 11.1.1: Fast-track building permits or other permitting processes for all new buildings, and buildings under going ‘major renovations’ that are compliant with Minnesota Sustainable Building Guidelines

Within Minnesota, the Departments of Administration and Commerce have published the State of Minnesota Sustainable Building Guidelines (MSBG). These guidelines offer developers in Minnesota a clear set of criteria that sustainable buildings must meet. They are more suited for local use as they are designed to be compatible with national guidelines, yet maintain regional

values, priorities and requirements. Currently, these guidelines are mandatory for any new building, or major renovation to a building that receives funds from the bond proceeds.<sup>18</sup>

Currently, private developers in Apple Valley are not required to achieve any third party certification or an equivalent standard. While many businesses have taken it upon themselves to undergo green renovations, a prescribed set of standards ensures key environmental benchmarks are always being met.

Recommendation 11.1.2: Designate an official green building recognition by the City

One of the major benefits to those who achieve official recognition for their green building efforts is the ability to market it. Today, many businesses and consumers are willing to spend a little more if they know that their money is going towards something that is environmentally friendly. The Marquette Plaza Office Building in Minneapolis, a pending LEED® Platinum development, has seen considerably lower vacancy rates than similar developments because many businesses have realized they can market their ‘green location’ directly to their clients. While Apple Valley may not require businesses to conform to any third party green building standards, creating some form of official recognition may encourage more developers to comply.

## PRINCIPLE 12: EDUCATE THE COMMUNITY ABOUT ENVIRONMENTAL STEWARDSHIP

Educating the community about environmental stewardship is an essential component in protecting the environment. Many people are not aware of the efforts going on around them, or that their individual behaviors can have serious environmental consequences. The 147th Street Station Area offers a unique opportunity to educate the community about sustainability.

### OBJECTIVE 12.1 SHOWCASE SUSTAINABILITY EFFORTS

Many people are going to travel to and from the Station Area on a regular basis to shop or eat. The stations themselves, as well as selected sites throughout the Station Area, could become educational centers that highlight sustainable practices.

#### Recommendation 12.1.1: Use signage to highlight sustainable practices throughout the Station Area

Well-designed signs are an effective and economical method of communicating with pedestrians in public spaces (see also recommendation 2.2.1). Signs are often used at stations to display route times, and other important information related to travel. The 147th Street Station Area provides a good opportunity to highlight new and existing sustainable practices within the Station Area by incorporating this information into informational kiosks that can serve multiple purposes. Additionally, signage may alleviate apprehensions members of the public have about unfamiliar green infrastructure improvements.

#### Recommendation 12.1.2: Encourage businesses to showcase sustainability efforts

Efforts to inform the community about sustainability efforts within the Station Area can help businesses and developers capture some of the value added by going green while educating the community. When feasible, businesses should be encouraged to offer tours to interested members of the public. Additionally, coordination between the Economic Development Agency, and interested businesses, could create a successful marketing partnership that highlights the Station Area as a sustainable place.



Educational sign outside Great River Energy Headquarters, Maple Grove, MN

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# CHAPTER

*“When people can see a vision and simultaneously recognize what can be done step by step in a concrete way to achieve it, they will begin to feel encouragement and enthusiasm ....”*

*-Erich Fromm*

# 7

# Summary

The 147th Street Station Area Sustainability Master Plan is a long range-planning document; it is understood that redevelopment of the Station Area, as well as implementation of the sustainability recommendations, will take place over time. In order to better guide planning for the Station Area, key elements of the Land Use Concept and the sustainability recommendations have been assigned a priority. The priority will assist planning staff in determining where to focus their efforts. The determinants for priority were based on ease of implementation, importance, as well as which recommendations or land use change would be most effective if implemented right away instead of sometime in the future.

## PRIORITY LAND USE RECOMMENDATIONS

### HIGH PRIORITY

- Update the Comprehensive Plan to reflect new zoning recommendations
- Enhance sidewalk connections and stripe bike lanes along 'priority pedestrian / bicycle' routes
- Develop critical pedestrian infrastructure at the 147th street station stop

### MEDIUM PRIORITY

- Install pedestrian improvements at key intersections
- Acquire land for new parks
- Create / fund the infrastructure needed to support denser development in accordance with the TIA requirements and recommendations outlined

### LOW PRIORITY

- Develop the Pedestrian Shopping District
- Create new streets / develop grid street pattern within each quadrant

The following pages include summary tables of the principles, objectives, and recommendations from each Sustainability section.

TABLE 3. ECONOMIC RECOMMENDATIONS

Economics	Links to Other Systems	Priority
<b>PRINCIPLE 1: CREATE EMPLOYMENT OPPORTUNITIES WITHIN THE STATION AREA</b>		
<b>Objective 1.1: Increase the Quantity of Jobs</b>		
1.1.1 Host "New and Expanding Business" Consultations		Medium
1.1.2 Create promotional materials describing the benefits of locating a business within the Station Area		High
1.1.3 Document and publish information regarding available properties within the Station Area		High
1.1.4 Expand business opportunities through partnerships		Ongoing
<b>Objective 1.2: Increase the Quality of Jobs</b>		
1.2.1 Require that 50% of new jobs created within the Station Area are capable of supporting a typical-sized Apple Valley family of 2.83 individuals	Equity	Ongoing
1.2.2 Balance the share of retail sales occupations, such as fast-food service and retail sales, with the need for providing well-paying jobs	Equity	Ongoing
1.2.3 Implement Tax Increment Financing (TIF) where appropriate		Medium
<b>PRINCIPLE 2: MAXIMIZE ECONOMIC OPPORTUNITIES WITHIN THE STATION AREA</b>		
<b>Objective 2.1: Maximize Properties that Contribute to the Overall Taxable Market Value</b>		
2.1.1 Set minimum Floor-area Ratios (FARs) within ½ mile of the Station Area	Environment	High
2.1.2 Promote the construction of buildings that allow for the adaptive reuse of its space		Ongoing
2.1.3 Encourage property maintenance and investment by effectively marketing existing and future business financing support services		Medium
2.1.4 Encourage property maintenance by effectively utilizing Conditional Approval Bonding		High
2.1.5 Diversify business types in the Station Area		Ongoing
2.1.6 Consider using a Land Value Tax in conjunction with a lower business property tax	Environment	Medium
<b>Objective 2.2: Remove Barriers that Constrain Walk-Up Business within the Station Area</b>		
2.2.1 Remove barriers that restrict Station Area businesses from placing pre-selected signage and carts outside their establishment	Livability	High
2.2.2 Relax noise ordinances within the Station Area for special events	Livability	Medium
<b>Objective 2.3: Encourage Private Development by Improving Infrastructure, Creating Public Amenities, and Establishing Incentives that Attract Developers and Quality Investors</b>		
2.3.1 Establish and maintain a more complete street grid	Livability	Low
2.3.2 Incorporate more public parks within the Station Area	Livability, Equity	High
2.3.3 Examine existing permit, inspection, and approval processes and find ways to streamline them in order to save applicants money	Livability, Equity	Medium
2.3.4 Create a Station Area Zoning Overlay District to encourage quality development		Medium
2.3.5 Establish innovative, TOD-specific parking standards	Livability, Environment	Medium
2.3.6 Promote the creation of a Sustainability Improvement District (SID)	All	High



TABLE 4. LIVABILITY RECOMMENDATIONS

Livability	Links to Other Systems	Priority
<b>PRINCIPLE 3: CREATE AN INTEGRATED TRANSPORTATION NETWORK</b>		
<b>Objective 3.1: Integrate Transit into Transportation Network</b>		
3.1.1 Coordinate Transportation Services with Local Transit Providers and Private Shuttle Operators		High
3.1.2 Provide Educational Material on How to Use BRT and Local Transit Services	Equity	Medium
<b>Objective 3.2: Integrate Pedestrian Mobility into the Transportation Network</b>		
3.2.1 Complete the sidewalk and trail network per recommendations put forth in Bike Walk Apple Valley while continuing to explore the creation of new connections	Economics, Equity	High
3.2.2 Require all new development to enhance and contribute to the sidewalk and trail system through right of way easements, pedestrian and bicycle amenities or facilities	Economics	Ongoing
3.2.3 Utilize Traffic Calming Techniques such as Landscaping, On-Street Parking and Bump-Outs as Redevelopment Occurs	Equity	Ongoing
3.2.4 Promote mixed use development through the creation of mixed use zoning districts	All	High
<b>Objective 3.3: Utilize Bike Friendly Design</b>		
3.3.1 Designate clearly marked bike lanes along key routes such as Galaxie Avenue and the Ring Route		High
3.3.2 Require bike facilities such as bike racks, lockers, and/or showers where appropriate at all new and existing development sites		Ongoing
3.3.3 Provide online videos and public service announcements outlining the laws and rights of all users of the transportation network	Equity	Low
<b>PRINCIPLE 4: ENHANCE THE PUBLIC REALM</b>		
<b>Objective 4.1: Enhance the public realm through the creation of parks and open space</b>		
4.1.1 Create a series of mini-parks, urban oases, pocket parks, or gathering nodes within the Station Area as redevelopment occurs	Economics, Equity	High
4.1.2 Explore and develop public/private partnerships in the creation of open space		Medium
<b>Objective 4.2: Create an Active Streetscape</b>		
4.2.1 Create a maximum setback requirement in appropriate areas as redevelopment occurs		High
4.2.2 Encourage developers to create active building facades		Ongoing
4.2.3 Visually shield parking lots		Ongoing
4.2.4 Provide pedestrian amenities such as benches walkways, and lighting within the 147 <sup>th</sup> Street Station Area	Equity	Ongoing
4.2.5 Promote businesses that can maximize on the increase of foot traffic to locate in strategic areas within the Station Area	Economics	Ongoing
<b>Objective 4.3: Promote Arts and Culture</b>		
4.3.1 Incorporate the 1990 Downtown Development Design Guidelines into a TOD overlay district		Medium
4.3.2 Develop a public art plan for the 147 <sup>th</sup> Street Station Area	Equity	Medium
<b>PRINCIPLE 5: IMPROVE CONNECTIVITY</b>		
<b>Objective 5.1: Improve and Increase Physical Connections within the Station Area</b>		
5.1.1 Create mid-block access points to shorten block lengths		Ongoing
5.1.2 Provide clear connections to building entrances		Ongoing
<b>Objective 5.2: Maintain, Enhance, and Create Visual Connections</b>		
5.2.1 Create and enhance sightlines to the 147 <sup>th</sup> Street Station		Ongoing
5.2.2 Incorporate wayfinding signage at the 147 <sup>th</sup> Street Station and at main Ring Route intersections	Economics	High
5.2.3 Encourage place-making architecture within the Station Area		Ongoing



TABLE 5. SOCIAL EQUITY RECOMMENDATIONS

Social Equity	Links to Other Systems	Priority
<b>PRINCIPLE 6: PROMOTE PUBLIC PARTICIPATION AND CIVIC ENGAGEMENT</b>		
<b>Objective 6.1: Create Opportunities for Community Engagement Centered Around the 147<sup>th</sup> Street Station Area</b>		High
6.1.1 Develop indicators for successful public participation		
6.1.2 Establish a citizen advisory team to actively participate in and facilitate the design and construction of Station Area improvements		High
6.1.3 Develop a written “citizen participation plan” that would provide details about how the community will achieve participation through planning processes for the Station Area		High
6.1.4 Facilitate open house and community gathering opportunities to engage and discuss the 147 <sup>th</sup> Street Station Area in a manner that is open and transparent		Ongoing
<b>Objective 6.2: Develop an Identity for the 147<sup>th</sup> Street Station Area that is Receptive to its users</b>		
6.2.1 Host community meetings focused on branding the 147 <sup>th</sup> Street Station in a manner that unifies the community	Livability	Medium
6.2.2 Maintain and foster cultural, racial and economic diversity of the community through targeted and thoughtful outreach		Ongoing
<b>PRINCIPLE 7: PROVIDE HOUSING CHOICES FOR PEOPLE OF ALL INCOME AND LIFE STAGES</b>		
<b>Objective 7.1: Enhance and Ensure Affordable Housing Opportunities within the Station Area</b>		
7.1.1 Ensure affordable housing is incorporated in all new residential development		
7.1.2 Explore the opportunity to create a TIF Housing District within the Station Area to incentivize developers to build affordable housing	Economics	High
7.1.3 Proactively encourage the provision of affordable housing through policy direction that positions affordable housing as a community benefit		Ongoing
<b>Objective 7.2: Increase Life-cycle Housing Opportunities</b>		
7.2.1 Allow for a minimum of 12 units per acre or a density bonus that allows for an increase in the number of residential units over what is permitted by the underlying zoning		High
7.2.2 Include a mix of housing options including, but not limited to, rental apartments, condos, and townhomes		Ongoing
<b>PRINCIPLE 8: MAINTAIN THE SOCIAL WELL BEING OF ALL COMMUNITY MEMBERS</b>		
<b>Objective 8.1: Enhance the Mental and Social Well-being of Individuals within the Station Area</b>		
8.1.1 Develop social justice sustainability indicators		Medium
8.1.2 Complete a baseline assessment of social service needs within the Station Area to ensure service levels remain high or levels are increased to meet the demand		High
8.1.3 Develop and complete a Social Justice Impact Statement to fully consider the impacts the proposed development would have on the community		Ongoing
<b>Objective 8.3: Ensure Land Impacts are Non-discriminatory</b>		
8.3.1 Ensure pedestrian enhancements are considerate of all ages and abilities	Livability	Ongoing
8.3.2 Work with the Apple Valley Teen Center to establish a youth committee to ensure the youth perspective is captured		High



TABLE 6. NATURAL ENVIRONMENT RECOMMENDATIONS

The Natural Environment	Links to Other Systems	Priority
<b>PRINCIPLE 9: REDUCE ENERGY CONSUMPTION AND ADDRESS CLIMATE CHANGE</b>		
<b>Objective 9.1: Increase Building Energy Efficiency</b>		
9.1.1 Ensure that 100% of businesses and homeowners within the Station Area are aware of the energy saving programs and resources available to them	Economics, Equity	Ongoing
9.1.2 Encourage planting of large canopy shade trees along the south and southwest facades of buildings	Livability	Ongoing
9.1.3 Actively promote the adoption of renewable energy technologies	Economics	Ongoing
<b>Objective 9.2: Reduce Vehicle Miles Travelled</b>		
9.2.1 Update zoning to promote denser, more diverse, patterns of development within the Station Area	Livability	High
9.2.2 Develop maximum parking requirements		Medium
9.2.3 All new development, except single family homes, should provide secure bicycle parking	Livability, Equity	Medium
9.2.4 Provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces		Low
<b>Objective 9.3: Reduce Urban Heat Island Effect</b>		
9.3.1 Encourage developers to use natural landscaping where possible in place of asphalt, concrete, or similar materials	Livability	Ongoing
9.3.2 Ensure the surface of 75% of all paving materials and structures have a solar reflectance index of at least 29; ensure these surfaces are cleaned at least every two years to maintain good reflectance		Medium
<b>PRINCIPLE 10: PRESERVE AND ENHANCE ECOLOGICAL SYSTEMS</b>		
<b>Objective 10.1: Protect Water Quality</b>		
10.1.1 Provide incentives for developers who exceed performance standards outlined in the SWMP		High
10.1.2 Encourage the use of permeable pavers in lightly traveled pedestrian and vehicle surface areas		Ongoing
10.1.3 Restrict use of chemical fertilizers and pesticides for landscaped areas and require private landowners to regularly perform street cleaning of surface lots		Low
10.1.4 Expand volunteer storm drain stenciling efforts to the Station Area; make sure 100% of drains that are visible to public are stenciled	Livability, Equity	Medium
<b>Objective 10.2: Increase Urban Tree Canopy</b>		
10.2.1 Set benchmarks for urban tree canopy, 40% is recommended	Livability	High
10.2.2 Update Street Tree Inventory to include canopy cover		High
10.2.3 Research ways to allow trees along the ring route to grow to maturity		High
<b>Objective 10.3: Promote Native Landscapes</b>		
10.3.1 Require 50% of landscaping is done with native plant species		Low
<b>PRINCIPLE 11: PROMOTE GREEN BUILDING TECHNIQUES</b>		
<b>Objective 11.1: Develop Green Building Standards</b>		
11.1.1 Fast-track building permits or other permitting processes for all new buildings, and buildings under going 'major renovations' that are compliant with Minnesota Sustainable Building Guidelines		Medium
11.1.2 Designate an official green building recognition by the City	Economics	Medium
<b>PRINCIPLE 12: EDUCATE COMMUNITY ABOUT ENVIRONMENTAL STEWARDSHIP</b>		
<b>Objective 12.1: Showcase Sustainability Efforts</b>		
12.1.1 Use signage to highlight sustainable practices throughout the Station Area	Livability	Low
12.1.2 Encourage businesses to showcase sustainability efforts	Economics	Ongoing



# APPENDIX



*Give credit where credit is  
due...*

# Supporting Documentation

## ENDNOTES

1. MN Department of Transportation. Traffic Volumes. 2007. [http://www.dot.state.mn.us/traffic/data/maps/trafficvolume/2007/cities\\_over\\_5000/applevalley.pdf](http://www.dot.state.mn.us/traffic/data/maps/trafficvolume/2007/cities_over_5000/applevalley.pdf)
2. City of Apple Valley. “2030 Comprehensive Plan.” May 2009.
3. Glasmeier, Dr. Amy K. Poverty in America: Living wage calculator. 2011. <http://www.livingwage.geog.psu.edu/counties/27053> (accessed April 5, 2011).
4. Oates, Wallace E., and Robert M. Schwab. “The Impact of Urban Land Taxation: The Pittsburgh Experience.” U.S. Agency for International Development. 1995. (accessed May 5, 2011).
5. Litman, Todd. Sustainability and livability: Summary of definitions, goals, objectives and performance indicators. February 2011. Victoria Transport Policy Institute. [http://www.vtpi.org/sus\\_liv.pdf](http://www.vtpi.org/sus_liv.pdf) (accessed March 27, 2011).
6. City of Apple Valley. “2030 Comprehensive Plan.” May 2009. pg. 5-3.



7. Shaheen, Susan A., Densie Allen, and Judy Liu. Public transit training: A mechanism to increase ridership among older adults. November 2008. [www.innovativemobility.org/publications/Public\\_Transit\\_Training\\_A\\_Mechanism\\_to\\_Increase\\_Ridership\\_Among\\_Older\\_Adults.shtml](http://www.innovativemobility.org/publications/Public_Transit_Training_A_Mechanism_to_Increase_Ridership_Among_Older_Adults.shtml) (accessed April 2, 2011).
8. <http://www.housing.nsw.gov.au/Centre+For+Affordable+Housing/About+Affordable+Housing/Who+Benefits+from+Affordable+Housing.htm>
9. [http://minnesota.uli.org/~media/DC/Minnesota/Minnesota%20Docs/2010\\_DakotaCo\\_ChangeReport\\_Final.ashx](http://minnesota.uli.org/~media/DC/Minnesota/Minnesota%20Docs/2010_DakotaCo_ChangeReport_Final.ashx)
10. <http://www.njfuture.org/index.cfm?fuseaction=user.item&ThisItem=1041&ContentCat=3&ContentSubCat1=27&ContentSubCat2=14>.
11. <http://blogs.wsj.com/developments/2011/01/13/no-mcmansions-for-millennials/>
12. Wernham 2007. [www.rwjf.org/files/research/63350.pdf](http://www.rwjf.org/files/research/63350.pdf)
13. <http://www.usmayors.org/climateprotection/agreement.htm>
14. Energy, US Department of. US Energy Information Administration. April 2011. <http://www.eia.doe.gov/consumption/reports.cfm> (accessed April 18, 2011).
15. Smith, Nicole. Apple Valley Patch. March 16, 2011. <http://applevalley.patch.com/articles/apple-valley-municipal-liquor-store-sees-savings-from-going-green> (accessed March 22, 2011).
16. Valley 2011.
17. Per Bolund, Sven Hunhammar. "Ecosystem services in urban areas." *Ecological Economics*, 1999: 293-301.
18. Research, Center for Sustainable Building. The State of Minnesota Sustainable Building Guidelines (MSBG). March 2010. <http://www.msbg.umn.edu/overview.html> (accessed April 18th, 2011).

---

## WORKS CITED

Association, Dakota Electric. Dakota Electric Business Services. April 18, 2008. [https://www.dakotaelectric.com/business/programs/rebates\\_grants\\_and\\_loans/custom\\_energygrant](https://www.dakotaelectric.com/business/programs/rebates_grants_and_loans/custom_energygrant) (accessed April 18, 2011).

Doane, Deborah, and Alex MacGillvray. Economic Sustainability-the business of staying in business. 2001. [http://www.projectsigma.co.uk/RnDStreams/RD\\_economic\\_sustain.pdf](http://www.projectsigma.co.uk/RnDStreams/RD_economic_sustain.pdf) (accessed April 3, 2011).

Energy, US Department of. US Eneary Information Administration. April 2011. <http://www.eia.doe.gov/consumption/reports.cfm> (accessed April 18, 2011).

Ewing, Reid, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. Growing Cooler: The Evidence on Urban Development and Climate Change. Chicago, IL: Urban Land Institute, 2007.

MN Department of Revenue. Minnesota's state and local tax system. December 2010. [http://taxes.state.mn.us/LegislativeUpdate/LegUpPDF/Tax\\_System\\_Overview\\_121710.pdf](http://taxes.state.mn.us/LegislativeUpdate/LegUpPDF/Tax_System_Overview_121710.pdf) (accessed March 27, 2011).

City of Apple Valley. "Bike Walk Apple Valley." September 2010.

Centers for Disease Control and Prevention. County level estimates of leisure-time physical inactivity. 2008. [apps.nccd.cdc.gov/DDT\\_STRS2/CountyPrevalenceData.aspx?mode=PHY](http://apps.nccd.cdc.gov/DDT_STRS2/CountyPrevalenceData.aspx?mode=PHY) (accessed March 20, 2011).

Dakota County. Lace up those walking shoes. 2011. [www.co.dakota.mn.us/CountyGovernment/News/CountyGovernment/SimpleSteps2011.htm](http://www.co.dakota.mn.us/CountyGovernment/News/CountyGovernment/SimpleSteps2011.htm) (accessed March 20, 2011).

