

Appendix L: DW Legacy Design Metrics

Pre-development Metrics

Design Workshop uses metrics as a discovery-oriented tool to help the project team and clients form a collective point of view about the goals and aspirations for a project and to measure success in meeting goals over time. Grounded in all four circles of Legacy Design – Economics, Community, Art or Aesthetics, and Environment – creation of distinct, measurable metrics helps designers create more robust solutions and helps clients and community members consider design and planning issues from different contexts.

The collective formation of goals and metrics by the consultant team and by clients helped to guide planning for the Manchester Road corridor over the next thirty years. Over time, the communities will monitor the success of the Manchester Road Great Streets Master Plan in meeting the metrics and goals established as part of this planning process.

Metrics Process

The establishment of goals and metrics is an iterative process that continues throughout each stage of a project. At the outset of the project, the Steering Committee and the consultant team identified key overarching goals for the project in each of the four Legacy Design categories. To determine the metrics most applicable to the Manchester Road project and the overarching goals, the consultant team engaged in facilitated team exercises to determine a proposed set of metrics. The Steering Committee added feedback concerning the proposed set of metrics.

Once the set of metrics was established, the consultant team completed research to establish the baseline condition of the corridor for each metric, based upon the existing, pre-redevelopment condition. Team members then researched and recommended benchmarks for performance for each metric category. Based upon the benchmark and baseline condition, the consultant team established goals for each metric for the corridor study area. Some goals pertained to short-term actions the communities could achieve within the next few years. Reaching all of the goals will likely require ongoing progress and persistence over many years.

The following pages outline metrics (including baseline condition, benchmarks, and goals) for the Legacy Design categories of Economics, Community, Art or Aesthetics, and Environment.

Environment

Communities must provide for a healthy environment in order to attract and retain residents, companies, and visitors. The metrics in the environment framework focus on stormwater, noise, light pollution, and the provision of open space and habitat for wildlife as well as humans. Creating a more sustainable environment along Manchester Road will help the corridor retain its appeal over many generations.

Economics

Given the economic turmoil that has affected St. Louis and the nation over the last few years, the economics framework remains foremost in the minds of residents and civic leaders in West County. The Manchester Road Great Streets Master Plan must provide for the economic well-being of each community and its citizens in order to continue to serve as the lifeblood of this portion of the county. Many in the area will judge the success of this corridor plan on the degree it positively affects the economies of the local communities in the study area.

Community

Because Manchester Road essentially serves as the “Main Street” for each of the five communities along the corridor, it serves an important role in providing for community gathering places and amenities. Citizens will judge the master plan based upon how it helps foster a greater sense of community and place over time and how its design stimulates the creation of community amenities and key locations for civic discourse and interaction.

Art

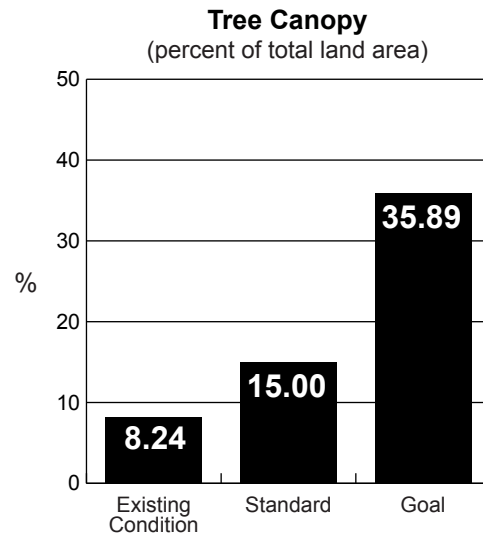
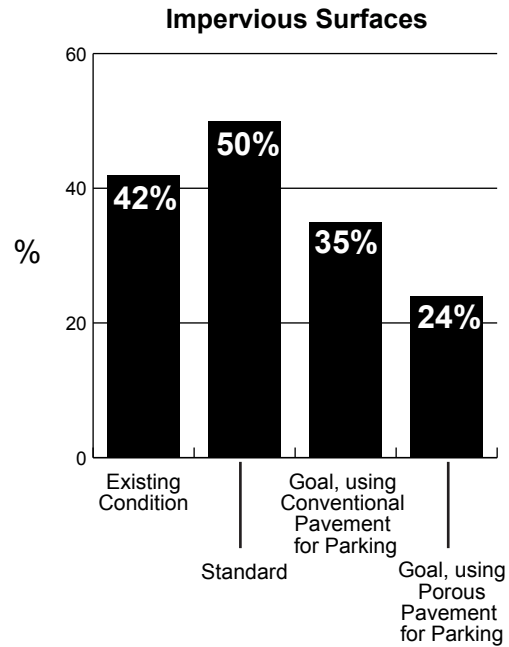
The appearance or aesthetic quality of the Manchester Road corridor will in many ways dictate the extent that the area succeeds in attracting new business and economic growth, creating a sense of community, and supporting a sustainable environmental framework. The poor visual quality of the corridor has impeded its success over the last few decades and a successful master plan must outline how the communities can create a more appealing set of destinations for locals and visitors over the coming years.

Metrics - Environment

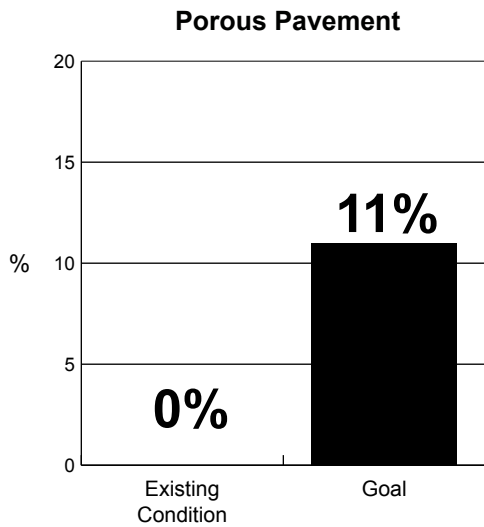
METRIC	PRELIMINARY GOAL	BASELINE	BENCH MARK	SMART GOAL	STRATEGIES
Planting Design	Use native plant materials to reduce water usage.				Specify the use of native plant materials for street trees and rain garden planting areas.
Tree Cover	Increase tree soil area to provide larger and healthier trees				1) Specify use of native plant materials for street trees, rain gardens and street planting areas. 2) Minimize the use of irrigation for any planting.
Heat Island Effect	Protect against and reduce urban heat island	Existing temps: Areas with Vegetative Cover, Areas with Tree Cover and Vegetative Cover, Brick, Grey Concrete, Aggregate Concrete, Painted/ Colored Concrete, Asphalt		Ambient air temperatures should decrease by 5 to 7 degrees following redevelopment.	1) Plant trees to shade hardscapes. 2) Replace paved areas with planted areas. 3) Use hardscape paving materials that are high libido.
Noise Pollution	Reduce noise levels		67 dB	Reduce impacts to 67 dB or less	Reduce vehicular speed through speed limit reductions in various segments of the road. Utilize new paving technologies to reduce road noise.
Light Pollution Reduction	Improve night sky visibility	Measurements taken of existing lighting conditions		Limit the number of foot-candels to 1fc on sidewalks and 2 fc at intersections while still addressing safety, security, access, wayfinding, identification, and aesthetic requirements	Use the Form Based Code to provide for appropriate lighting standards and technologies in the various districts along the corridor and to provide sufficient illumination for businesses and for public safety while minimizing unnecessary illumination.

METRIC	PRELIMINARY GOAL	BASELINE	BENCH MARK	SMART GOAL	STRATEGIES
Stormwater management	Contain and collect stormwater on-site and increase the quality of any new runoff	42% impervious	50% impervious	43% impervious	Direct stormwater to rain gardens. Utilize porous pavement on 50 percent of the street cross sections. 3) Maximize incorporation of planting areas and rain gardens.
Landscape Materials	Incorporate locally extracted and manufactured materials in the construction of public improvements for the corridor plan.	Limestone quarried locally along the Mississippi River		Average distance of materials (from the corridor) not to exceed 500 miles.	1) Incorporate locally quarried limestone. 2) Recycle materials for wall caps, pavers, or specialty architectural features.
Waste Management	Establish goals to reduce the percentage of the waste stream entering local landfills and incinerators.	N/A	100% of all materials resulting from the demolition of existing streets, parking, and pavement	100% of all materials resulting from the demolition of existing streets, parking, and pavement along Manchester Rd to be recycled.	1) Work with local recycling organizations and construction companies to facilitate recycling efforts as part of the reconstruction of Manchester Rd and other roads and pavements areas within the study area. 2) Recycle existing concrete, brick, and asphalt. 3) Re-use existing site furnishings, granite curbing and brick. 4) Utilize recycled materials for sub bases and trenching fill. 5) Chip demoed street trees and reuse for mulch.
Wildlife	Provide necessary habitat for urban wildlife	Bioblitz data of existing condition		Increase urban wildlife habitat by X percent.	1) Provide healthy and numerous street trees. 2) Encourage green roofs in new development 3) Provide plantings and rain gardens with plants that provide for the needs of birds, insects, etc.

METRIC	PRELIMINARY GOAL	BASELINE	BENCH MARK	SMART GOAL	STRATEGIES
Energy and Carbon	Minimize energy use			Reduce energy use by X percent	1) Provide efficient street lighting. 2) Utilize materials with a long life cycle. 3) Utilize solar as an energy source. 4) Promote alternative transportation options. 5) Ensure proper synchronization of traffic lights.
Air Quality	Improve air quality	Current emissions measurements		Reduce emissions of HC, CO and Nox	1) Increase quantity of street trees. 2) Reduce heat island effect. 3) Use low-volatile plants. 4) Ensure proper synchronization of traffic lights to prevent idling of vehicle engines.
Impervious Surface Coverage	Decrease the percentage of the study area covered by impervious surfaces in order to provide additional area for open space and for improved stormwater management.	42%	No greater than 50%	35% (assuming conventional parking lot pavement); 24% (assuming use of porous pavement for parking lots)	A Form Based Code (providing guidance on setbacks and related site design concepts), combined with strategies to encourage the use of porous pavements, will help reduce the impervious site coverage.
Porous Materials	Increase the use of porous materials to improve stormwater management	0%		11.4% (assumes 100% of parking lots use porous pavement)	Form Based Code and design guidelines in the five communities should encourage the use of porous pavements.



Source: Davey Resource Report: American Forests (2002), which suggests canopy cover in a business district should be 15% of total land area.

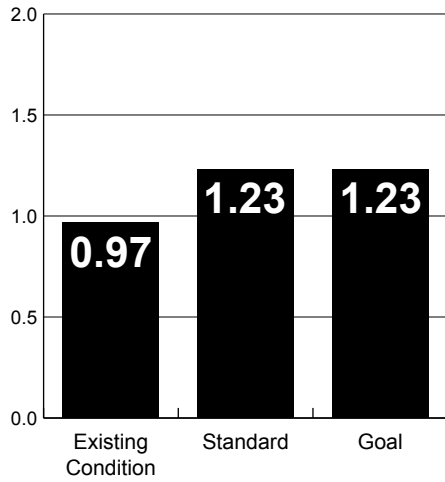


Metrics - Economics

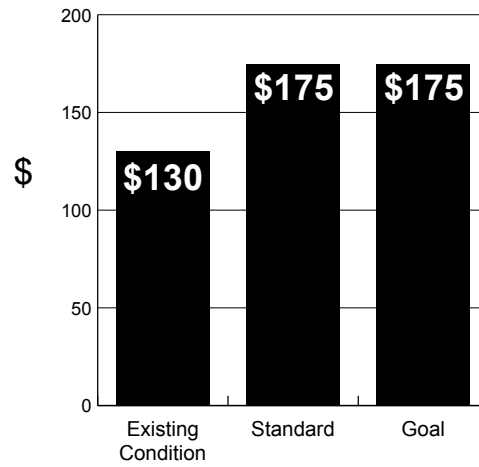
METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Employment	Improve jobs to housing ratio. Attract greater number of non-retail jobs (provide for full range of jobs, including professional-level positions) in the study area.	0.97	1.23: 1	Greater than 1.00: 1. The plan should also strive to create a more even distribution of jobs across the 5 study area cities. It should also work to increase the share of non-retail service jobs	Create attractive mixed-use town centers that attract greater numbers of Class A office users and attract greater share of local-service office in the West County market (including medical office, legal, etc.)
Employment	Increase share of St Louis metro job base	5.67%	9.5% (equal to study area cities' share of MSA population in 2009)	9.5% (equal to study area cities' share of MSA population in 2009)	Create attractive mixed-use town centers that attract greater numbers of Class A office users and attract greater share of local-service office in the West County market (including medical office, legal, etc.)
Vacancy rates (residential, office, retail)	Decrease vacancy rates	10.9% (local-serving retail); 16.0% (regional-serving retail); 10.1% (office)	Less than 5% (local-serving retail), Less than 8% (regional-serving retail - by SF), Less than 8% (office)	Less than 5% (local-serving retail), Less than 8% (regional-serving retail - by SF), Less than 8% (office)	The recommended development program for the corridor over the next 30 years helps to "right-size" the retail footprint along the corridor (and balance overall square footage with residential and office uses). Redevelopment should focus on creating newer, tenant-ready space in order to reduce vacancy rates in all product categories.

Rental rates (residential, office, retail)	Increase rental rates (All figures are listed as \$ per square foot)	\$16.99 (Local-serving retail); \$18.47 (Regional-serving retail); \$15.78 (Office), \$1.15 (Rental Residential)	\$22.50 - \$25.00 (Retail); Greater than \$25 (Office); Greater than \$1.50 (Rental Residential)	\$22.50 - \$25.00 (Retail); Greater than \$25 (Office); Greater than \$1.50 (Rental Residential) - The corridor must reach these targets to feasibly support any new development.	The recommended development program for the corridor over the next 30 years helps to "right-size" the retail footprint along the corridor (and balance overall square footage with residential and office uses). Redevelopment should focus on creating newer, tenant-ready space in order to increase rental rates.
For-sale: Prices per Square foot (for residential, retail, office)	Increase sales price (All figures are listed as \$ per square foot)	\$130 (lower-density residential)	Greater than \$175 (Lower-Density Residential)	Greater than \$175 (Lower-Density Residential) - The corridor must reach this target to support new development.	Leverage the Manchester Road Great Streets Master Plan as a marketing tool to attract new employers and residents and therefore increase demand for real estate along the corridor.
Public Sector Incentives	Capture additional funding for construction and implementation	N/A	N/A	N/A	Research alternative sources of funding (local, national, ARRA, FHWA, Local Public Grants)
Private sector grants / philanthropy	Capture additional funding for construction and implementation of public improvements along the Manchester Road corridor	N/A	N/A	N/A	1) Research alternative sources of funding (local, national, foundations), 2) Execute ongoing strategic planning for the Manchester Road district

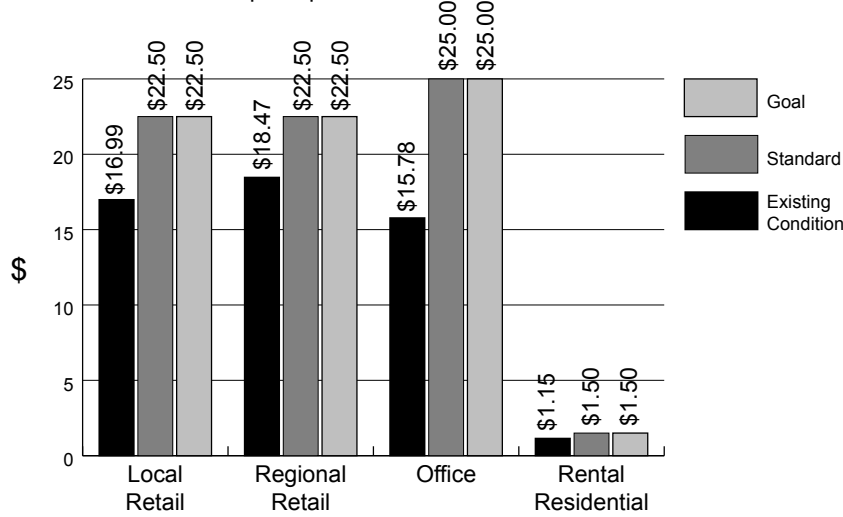
Jobs to Housing Ratio



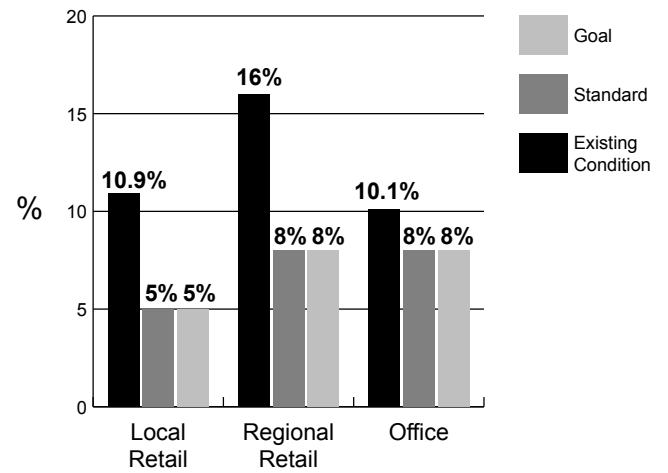
For Sale Price Lower-Density Residential



Rental Rates per square foot



Vacancy Rates



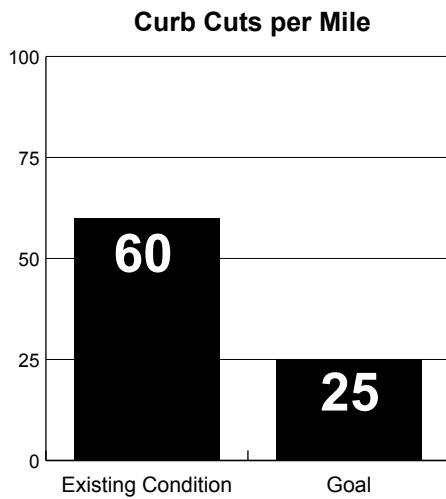
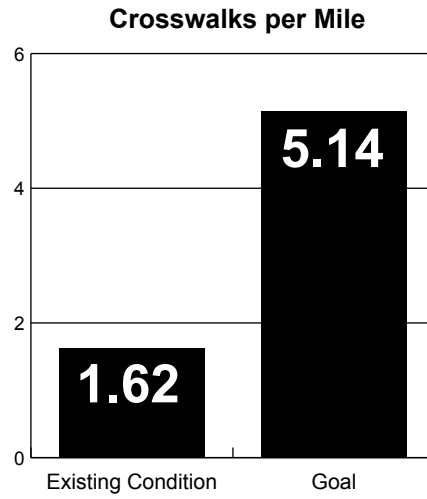
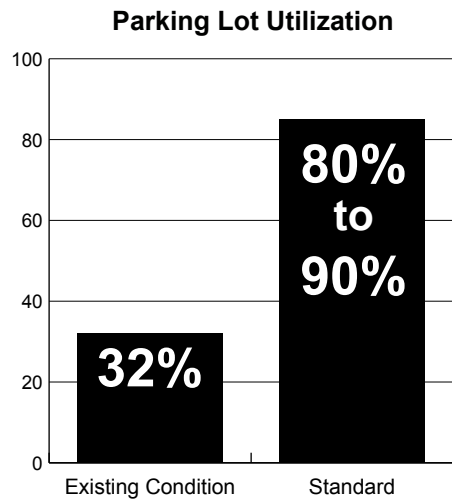
Metrics - Community

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Crime rates	Design for civic spaces, shopping areas, and residential and office areas in order to help facilitate lower crime rates along the corridor.			Maintain a lower crime rate than the city/county average	1) Encourage more people on the street by creating a vibrant mixed-use street that is used throughout the day, 2) Improve lighting
Community Leadership	Achieve buy-in from local leaders for the vision of the Manchester Road master plan	N/A	N/A	Obtain signatures from all 5 mayors on Guiding Principles from the master plan effort.	1) Consult all leadership groups in the formation of goals, issues, concerns, and continue to engage them throughout a transparent process, 2) Attend neighborhood meetings, 3) Reach out to residents to attend neighborhood meetings and public input meetings, 4) Utilize fliers/handouts, postings, newspapers, News stations, radio and the internet to inform the public, 5) Develop the project design as a direct result of community input
Community Interaction	Design streets and public and private redevelopment areas as places that promote community interaction	N/A		Provide X percent of all new developable square footage along the corridor as public gathering space; Increase public seating along the corridor by X %	1) Provide dining and seating plazas, gathering areas and small parks for events and markets, particularly in potential town center areas along the corridor.
Historic Designation	Maintain and enhance historic designations (for example, designations in the Manchester area)				1) Provide form-based code recommendations to preserve existing building heights and setbacks; 2) Understand local history and how the area evolved. 3) Preserve historic buildings and amenities

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Mobility	Improve accessibility			Meet federal requirements for accessibility along the corridor and at all intersections	1) Collaborate with local schools for the blind and deaf as well as city, county, and MoDOT accessibility specialists; 2) Provide crosswalk striping, curb ramps with detectable warnings and signalization, and accessible parking spaces
Employment	Increase educational opportunities			Increase local employment by X percent	1) Provide additional office space; 2) Increase the number of businesses located in the corridor.
Transportation-Related Metrics:					
Auto accident rates	Reduce accidents and associated costs	258 crashes for the past two years	median external cost of a crash (PD, EMS, legal, property damage) is about \$44K	\$8M in external cost savings	Recommended access management treatments (including median installation, traffic signal management, and reduction in curb cuts) will eliminate about 192 crashes per year.
Pedestrian accident rates	Improve pedestrian safety	existing # of crosswalks, existing crosswalk timing		Increase crosswalk opportunities, improve crosswalk timing and access	1) Reduce traffic speeds, 2) Increase sidewalk widths, 3) Provide improved lighting, 4) Provide longer crosswalk signals, 5) Provide shorter crosswalk distances, 5) Provide accessible pedestrian signals and technologies for assisting special populations (tactile, audible, visual).
Pedestrian and Bicycle Mobility	Increase mobility and accessibility via the increased use of trails and bike paths and providing for proximity of residents and visitors to transit stops.	Total linear feet of trails and sidewalks per square mile in the study area = X.	Total linear feet of trails and sidewalks per square mile in the study area = X.	Total linear feet of trails and sidewalks per square mile in the study area = X.	

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Walk Score	Increase the walk score to levels deemed sufficient to provide for better connected physical environment that reduces vehicle trips and encourages walkability.	25 - 70% across the corridor	90 - 100% (a "Walker's Paradise")	90 - 100% (a "Walker's Paradise") in the Town Center areas. 80 to 90% in the neighborhood districts.	The suggested layout of streets and encouragement of a mixing of uses
Crosswalks	Increase the number of crosswalks per mile along the corridor in order to enhance walkability in the study area and link areas to the north and south of Manchester Road.	Existing: 12 crosswalks (1.62 crosswalks per mile between Routes 141 and 109), plus one grade-separated pedestrian crossing.		Proposed under master plan: 38 crosswalks (5.14 crosswalks per mile between Routes 141 and 109), plus two grade-separated pedestrian crossings.	Provide for crosswalks at signalized intersections as well as pedestrian crossings located in between signalized locations (including signals that may be activated by pedestrians in order to cross Manchester Road). Integrate planning for pedestrian crossings with transportation improvements along Manchester Road and the planning of town center areas along the corridor.
Driveways	Manage the number of driveways per mile along the corridor in order to balance access to individual properties with overall desire to move traffic more efficiently along the corridor.	Existing Condition: Between Old State Road and Route 141 (4.95 miles), 256 driveways (average of 51 per mile)			Integrate planning for pedestrian crossings with transportation improvements along Manchester Road and the planning of town center areas along the corridor.
Total Curb Cuts (including Driveways and Intersection access points)	Manage the number of curb cuts per mile along the corridor in order to balance access to individual properties with overall desire to move traffic more efficiently along the corridor.	Existing Condition: Between Old State Road and Route 141 (4.95 miles), 298 curb cuts (average of 60 per mile)		Proposed under Master Plan: Between Old State Road and Route 141 (4.95 miles), 127 curb cuts (average of 25 per mile)	

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Speed limit	Observed travel speeds should not exceed posted limits along Manchester Rd.	Avg. posted speed = 40 mph versus 85th Percentile observed speed = 46 mph (from Westglen Farms Drive to Route 141), based upon data from Fall 2009	The 85th percentile speed should not exceed 40 mph from Westglen Farms Drive to Route 141	The 85th percentile speed should not exceed 40 mph from Westglen Farms Drive to Route 141	The design of the corridor plans for the encouragement of more consistent speeds that do not exceed posted speed limits by managing the number of access points along the corridor and calming traffic in areas that have exhibited greater prevalence of speeding through the introduction of signaled pedestrian crosswalks and additional traffic signal locations.
Parking Lot Utilization	Increase parking lot utilization to levels (on average) sufficient to avoid the presence of large areas of unused parking that detract from the visual appearance of the corridor.	32% utilization based on March 2007 aerial	80 - 90% utilization (based upon experience from around the country)	70 - 80% utilization	Pursue shared parking strategies and apply maximum parking requirements for the various districts along the corridor in order to increase the efficiency of usage of parking and to reduce the average inventory of unused spaces.
Bus Ridership	Increase bus ridership along Manchester Road in order to improve traffic flow and provide alternative traffic mode availability to the full spectrum of residents.	N/A	Transit modal share of 10% (10% of all trips in the study area taken by bus)	Transit modal share of 10% (10% of all trips in the study area taken by bus). Note: The current transit modal share for bus in the entire St. Louis region is 2.6%.	Work with Metro and cities to the east to connect BRT along Manchester Road to communities and key linkages to the east (including the Maplewood Metrolink stations and communities along the corridor heading toward St. Louis such as Des Peres, Warson Woods, and Maplewood). Encourage the development of nodes of activity at key town center locations along the corridor to encourage the use of transit to travel from town center to town center.



Metrics - Art

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Public Perception of Aesthetic or Art Quality of the Corridor	The majority of the public should indicate that the visual quality of the corridor is good or very good.	8% of respondents to in-person or online surveys rated the existing visual quality as "good" or "very good"	At least 50% of respondents to in-person or online surveys rate the visual quality as "good" or "very good"	At least 50% of respondents to in-person or online surveys rate the visual quality as "good" or "very good"	Utilize form based codes, signage recommendations, and public art recommendations to promote redevelopments that enhance the visual quality of the corridor.
Identity / Character	Ensure the design identifies with the community, the people, and the history of the area. The art should relate or contextualize history in a contemporary interpretation.				Coordinate the design, specified materials and site elements so they are contextually and historically correct.
Seasonality	Ensure the design is aesthetically pleasing in all seasons.				1) Provide durable and long-lasting elements that are suitable for the St. Louis climate, 2) Encourage temporary / rotating art that correlates with the St. Louis area seasons
Functional Aesthetics	Balance art and function.				1) Integrate art into the designed elements of the streetscape, 2) Promote a 1% allocation of the construction budget toward the incorporation of art
Collaboration with Local and Regional Artists	Employ local and regional artists to participate and contribute to the design	N/A			1) Engage a local art leader or local art organizations, 2) Encourage the CID to make art an active component of the district and to reach out to local and regional artists.

METRIC	PRELIMINARY GOAL	BASELINE	BENCHMARK	SMART GOAL	STRATEGIES
Public Art	Utilize public art to contribute to the character and identity of Manchester Road.	N/A	Dedicate 1 percent of construction budget to public art	Dedicate 1 percent of construction budget to public art	1) Ensure all construction budgets have budgets established for the incorporation of art 2) Identify local sources of funding for establishment of public art programs
Private sector spending on public art	Utilize spending by the private sector on art to contribute to the character and identity of Manchester Road.	N/A	Dedicate 1 percent of construction budget to public art	Dedicate 1 percent of construction budget to public art	The CID, local cities, Chamber of Commerce and a potential redevelopment authority should work with the private sector to explain the benefits of public art to encouraging local businesses