

General Development Implementation Steps

Implementation	Implementation Step	Strategy	Partners	Resources Needed	Timing	
<i>T-1: Improve street conditions to function better for everyone</i>						
T-IS-1	Standardize maintenance intervals for activities that will extend the life of pavement, such as crack sealing and chip sealing.	S1	City Engineering			
T-IS-2	Commit a portion of the annual streets budget to these pavement life extension strategies.	S1, S2				
T-IS-3	Inventory transit and bike routes and high volume streets with a Pavement Quality Index lower than _____ and create a CIP to strategically repair and reconstruct these streets.	S1, S2, S8				
T-IS-4	Include consideration of on-road bicycle facilities in all resurfacing plans.	S5				
T-IS-5	Create a public information map about which sidewalks are cleared by the city, county, state, and property owners.	S6, T3-S1, T3-S14				
T-IS-6	Increase use of the Snow Angels program and educate citizens about the importance of snow clearing.	S6, T3-S1, T3-S14				
T-IS-7	Enforce the snow clearing ordinance.	S4, S6, T3-S1, T3-S14				
T-IS-8	Clear sidewalks along multi-modal priority routes immediately after a snowfall.	S4, S6, T3-S1, T3-S11, T3-S14				
T-IS-9	When constructing streets, include boulevards between sidewalks and driving lanes, sized to ensure viability of street trees and landscaping where space allows.	S5, S9, T3-S1				
T-IS-10	Restore and maintain Skyline Parkway as a scenic and historic transportation route, and make road improvements for all modes.	S5, T3-S1				
T-IS-11	For improved safety at intersections, evaluate changing parking rules to require vehicles park further from intersections to increase sight lines.	S9				
T-IS-12	For street projects and local plans, include an assessment of local roadways with problematic vehicle speeds and identify short-term and long-term traffic calming solutions.	S7, S9, T3-S1				*Include picture of median from Des Moines
T-IS-13	Identify pedestrian crossings needing safety improvements, such as those near transit stops, schools, or pedestrian destinations.	S5, S7, S9, T3-S1, T3-S10				
T-IS-14	Encourage demonstration projects such as temporary bump outs and bike lanes to test proposed safety improvements.	S5, S7, S9, T3-S10				
T-IS-15	Resurvey the condition of street pavement for analysis using the ICON software system.	S1, S2				
T-IS-16	Repair sidewalks with a "poor condition" rating, focusing first on areas within 1/4 mile of a transit stop and along safe routes to school.	S1, S4, S7, T3-S11				
T-IS-17	Prioritize and seek funding for Safe Routes to School improvements.	S7				
T-IS-18	When possible, conduct utility upgrades and replacement during road reconstruction/maintenance	S8				
T-IS-19	Evaluate utility repair sites after restoration for quality of pavement and impacts to the transportation system.	S8				
T-IS-20	Identify locations for electric vehicle charging stations, and make any necessary changes to local ordinances to allow for charging stations	S11				
T-IS-21	Plan for and pilot a concept of shared mobility areas along designated curbs that can be used for a wide range of transportation needs.	S10, T3-S6				
<i>T-2: Reduce infrastructure costs through innovation and wholesale design change</i>						
T-IS-	When doing street construction, plan for lane widths at the narrowest standard width (9-10 feet), to be increased only after need is demonstrated.	S1, S2, T3-S3, T1-S9				
	Inventory residential streets without sidewalks, and identify based on traffic speeds and volumes, whether pedestrians and bicyclists can be accommodated within the same space as vehicles, or need separate accommodations	S2				

Map residential areas with low-volume traffic, where lane widths could be reduced, and amend city road standards as appropriate.	S2				
When residential streets are being repaved in areas where properties have off-street parking available, evaluate the feasibility of eliminating a parking lane to reduce pavement.	S1				
In areas that allow parking on one side of the street, construct only one parking lane rather than alternating sides of the street every week.	S1, S3				
As streets are narrowed, use extra right of way for sidewalks, trails, or bike facilities (all of which use shorter depth of asphalt and increase the use of the street), or for street trees, plantings, rain gardens and other stormwater treatment.	S6, T1-S9, T1-S5, T3-S3, T3-S19, T3-S21				
When street widths are narrowed, consider using mountable curbs to allow vehicles flexibility in moving slightly off the road when residents need occasional parking for gatherings and visitors.	S1, S2				
Conduct a feasibility study and implementation program for shifting to a snow clearing operation using a snow emergency system.	S3				
Establish a metric for evaluation of streets in low density areas that could be replaced, reduced, removed, or made private.	S4				
Estimate wear and tear of waste haulers and other large trucks on city streets and make recommendations to reduce.	S5				
Map areas where soils are appropriate for green infrastructure and those areas green infrastructure can have the most impact, and use this map in working with development and street construction.	S6				
Make changes to the UDC to incentivize green infrastructure in appropriate areas.	S6				
<i>T-3: Add to the transportation network by systematically enhancing multi-modal options</i>					
Amend the UDC to ensure development and redevelopment includes pedestrian connections, bicycle parking, and transit stop amenities, and that buildings are placed and designed to encourage a pedestrian friendly streetscape and to support alternative modes of transportation.	S1, S2, S3, S11, S18, S21				
Support closed streets events in key locations such as Superior Street and other downtown streets, Canal Park, and Skyline Parkway.	S1				
Plan for the area immediately around the future Northern Lights Express (NLX) station, focusing on connections to local transportation and wayfinding to Duluth destinations.	S9				
Prioritize transit growth in areas where projected vehicle growth predicts future congestion, and in/between areas with the greatest population and employment density. This includes: a) the Woodland Avenue corridor and UMD area; b) between Lakeside and Congdon/I-35, using E 4th Street and London Road; c) United Healthcare and the airport area; and d) between West Duluth and the mall area.	S10, S17				
Support development and redevelopment of mixed use nodes and corridors along transit lines that increases residential density and commercial square footage, and identify incentives to implement this. Multi-story buildings should be prioritized over single-story buildings, and parking ramps encouraged over parking lots as a more space-efficient way to provide parking.	S10, S13				
Update city road standards to indicate that perpendicular /diagonal parking is not preferred on city streets.	S4				
As part of city-wide parking policies, study ways in which on-street parking revenue can be used within neighborhood or business improvement districts.	S5				
Implement dynamic pricing based on demand for on-street parking, and price on-street parking higher to incentivize ramp use.	S5				
Conduct an alternatives analysis of ways to increase uphill/downhill connections.	S7				

	Inventory and map existing public stairways and identify locations in which new stairways can improve pedestrian connections.	S8				
	Add bike rails to new public stairways and retrofit existing stairways where feasible.	S8				
	In the UDC's Sustainability Point System, add a category for transit projects built along, in order of likelihood to boost frequency and service, 1) DTA Routes 1, 6, and 10; 2) DTA Routes 4, 9, and 13; and 3) DTA Routes 2, 3, 7, 11, and 12.	S10, S13				
	Improve transit amenities and transit stop conditions including sidewalks and concrete landing pads, shelters, heat, signage and updated information, cleanliness and aesthetics, and snow clearing. Create standards for transit stops, including ADA accessibility, and use transit stop inventories to identify those in need of improvement, starting with those that are most used and at key nodes. Explore new strategies for funding at transit stops, such as sponsorship of transit shelters or stops.	S11, S14, S15, S16				
	Amend the Connectivity Standards in the UDC to require transit stops be brought up to standard if a new development or redevelopment abuts a transit line and has a transit stop directly adjacent to the property.	S11				
	Create incentives for employers who offer reduced transit fares for employees, and for those who do not provide free vehicle parking but instead charge for parking. Work with institutions including the hospitals to provide free bus service to employees, similar to UMD's existing program.	S6, S10, S17				
	Work with the DTA to increase bike capacity on buses.	S12				
	Examine the feasibility of a transportation alternative using existing rail lines between downtown and Lakeside.	S17				
	For bus services to and from schools, align transit schedules with school and class times to the extent feasible. For bus service to the airport, align trip times with flight arrivals and departures.	S17				
	Continue to ensure transit connects to grocery stores and farmers markets, and that those buses have grocery bins.	S17				
	Identify opportunities for future rapid bus service, and tools such as signal priority to ensure consistent and fast travel times on those routes.	S16				
	Make improvements and increase marketing for transit park 'n' rides in Piedmont and Woodland.	S17				
	Complete the Cross City Trail and Campus Connector to connect gaps in the existing paved bike infrastructure. Create bike lanes downtown to connect existing bike lanes on 4 th Street and London Road with the Cross City Trail.	S19				
	Assess bike routes using FHWA's "level of stress" metric, and implement recommendations to improve bikeability in Duluth.	S20				
	Create a bike parking program with standardized racks, to be installed by the city in key areas and via an application process from property owners. Increase available bike facilities such as repair stations, lockers, and bike racks on public and private property.	S18, S21				
	Participate in regular bike lane demonstration projects to test and determine the best locations for permanent bike infrastructure. <i>Photo: Michigan St bike lane project.</i>	S20				
	Participate in a bike sharing feasibility study, and support implementation of bike-share programs.	S22				
T-4: Reduce infrastructure costs through innovation and wholesale design change						
	Manage event congestion through a dynamic parking information system that will direct drivers where parking is available in private and public lots, including signage on the freeway directing drivers to the appropriate exit. This should include lots at the DECC and downtown to reduce vehicles circulating in Canal Park looking for parking.	S1, S2				

	Improve connections over I-35 at Lake Avenue and at 5th Avenue West to be more pedestrian and bike friendly / or consistent with the Canal Park Study.	S3				
	Evaluate methods for increasing transit circulation and transit stops within downtown and Canal Park/Bayfront, connecting key destinations and parking facilities. Expand the downtown zone eligible for reduced fares, and create a free circulator between parking facilities and key destinations.	S4				
	Conduct a traffic study to identify how to best route vehicles between Park Point and the freeway, to minimize congestion from through traffic.	S3				
	In those areas with the highest pedestrian traffic, such as within Canal Park and along East Superior Street, investigate strategies to make pedestrian crossings of roadways easier, such as mid-block crossings, bumpouts, and signal phasing (i.e. exclusive pedestrian phasing, split phasing, or leading pedestrian interval).	S2, S3, S5, S6				
	Improve the alley between S Lake Avenue and Canal Park Drive as a woonerf; add a smoother driving surface for vehicles, but design so that all modes can use this alley. Include wayfinding and aesthetic improvements such as signage for businesses, trees, and landscaping where appropriate.	S6, S8				
	Redesign the Baywalk along the harbor behind the DECC from Pier B on the west to the Lakewalk on the east, including a pedestrian connection along Buchanan Street. This redesign should include wayfinding and a consistent “feel” for the Baywalk as an inviting thoroughfare for pedestrians and bicyclists that connects important public spaces and enhances views of the harbor	S8				
	Create a downtown street plan to guide future street improvements.	S3, S4, S5, S6, S7				
	Complete a parking plan for downtown and Canal Park that estimates future parking demand, identifies strategies for market-based approaches that incentivize ramp parking and transit use where appropriate, creates efficiencies with shared parking, and suggests ways to incorporate parking in efficient land use scenarios that support economic development and other community goals	S1, S2				
	Complete a low profile lighting plan to improve safety for bikes and pedestrians along lakewalk and walkways throughout canal park and downtown.	S6, S8, S9				
<i>T-5: Base decisions about transportation infrastructure primarily in the context of improving city and neighborhood vitality, and not on automobile through traffic</i>						
	Neighborhood investment districts? (Adam?)	S1, S2, S5, S6, S7				
	Road construction, street improvements, and trail projects shall retain existing trees where feasible and include new street trees where space allows.	S3, S4				
	Use green infrastructure as aesthetic amenities in addition to providing stormwater treatment.	S3, S4				
	Transportation corridors such as Central Entrance and 6th Avenue E should be treated as gateways into the city and neighborhoods. Defining aesthetic elements, identification signage, and streetscape design should reflect this.	S2, S5, S7				
	Incorporate public art and creative placemaking into street, transit, and trail projects.	S1, S5				
	Explore opportunities to use bus stops and shelters, fire hydrants, bike racks, utility cabinets, and other normal components of streets as low-cost ways to implement public art. Identify locations where painting could be allowed in street intersections, and a process for permitting this.	S1				
	In neighborhood commercial areas, facilitate shared parking as a way to reduce expectations on individual businesses and promote walkability within those neighborhoods as well as create a common feel for the district.	S2, S5, S6				
	Incorporate low profile lighting for safe transportation systems	S1, S6				
<i>T-6: Protect and enhance regional and freight transportation</i>						
	The City will continue to work with the Army Corps of Engineers, Coast Guard, and stakeholders to maintain Duluth’s shipping channels and port facilities.	S1,				

	The City will continue to protect and enhance freight corridors and intermodal facilities that link water-borne shipping with rail and truck shipping.	S1, S2, S3, S5, S6				
	Support reconstruction of the Twin Ports Interchange for a more efficient, safe and sustainable roadway design that will enhance freight connections to the port area. safety, and neighborhood connectivity.	S3				
	Support for airport cargo growth through increased economic activity in the region based on population growth and an increase in business activity and employment.	S4, S5				
	Support expansion of the air cargo facility.	S4, S5				
	Invest in transportation improvements that support the export and mobility of freight by truck, rail, air, and shipping.	S2, S3, S5, S6				
	Form partnerships with rail freight lines to maintain, improve, and expand rail infrastructure.	S5, S6				
	Eliminate freight traffic on residential streets. Encourage appropriate use of truck routes; be thoughtful in positioning industry and truck routes. Get freight out of neighborhoods.	S3, S5				
	Promote industrial, port, transportation, and logistic businesses near the port, railroad, airport, or highway interchanges so those businesses can take advantage of infrastructure. Protect location-dependent economic uses, including port, railroad, and airport facilities, from encroachment by land uses that are incompatible or not location-dependent.	S2, S4, S5, S6				