



Lan-Oak Park District Bicycle Plan

*A Work Plan for the Implementation of
Improvements to the Bicycling Environment*



Version 1.0, August 2009

Executive Summary

The Lan-Oak Park District Bicycle Plan identifies a proposed on-street bicycle network and defines a 10-year program to improve key components of the network that will make bicycling safer, more convenient, more popular and more fun.

The Park District's goal is to use the plan to develop a bicycle-friendly environment that:

1. Maximizes access to its planned regional trail connections and their impact on quality of life and the local economy,
2. Encourages its residents to bicycle for transportation, recreation, and good health.

The plan includes a map of the proposed bicycle network, with routes color-coded by recommended facility; and the 10-year program organized by near-term, mid-term, and long-term priority recommendations:

Near-term Priorities: 1-3 year timeframe

- Signed bicycle network
- Improved intersections
- Shared lanes and bike lanes on appropriate streets
- Bicycle parking
- Lan-Oak Park District Bicycle Map
- Education and encouragement programs

Mid-term Priorities: 3-5 year timeframe

- Bicycle accommodations on Thornton-Lansing Rd., 170th St. and portions of Wentworth Ave.
- Road diet conversions for portions of Torrence and Wentworth Ave.

Long-term Priorities: 6-10 year timeframe

- Adding appropriate width and facilities to Glenwood Lansing Rd.
- Road diet conversions for portions of Wentworth Ave. and Ridge Rd.

Much of the near-term program can be accomplished through the Park District's normal funding mechanisms, including coordination with the Village of Lansing's annual resurfacing and reconstruction programs. Local sponsorship will accelerate the plan's implementation.

Where necessary, each of the plan's recommendations qualify for funding through federal programs, including Congestion Mitigation and Air Quality, the Surface Transportation Program [both administered through the Chicago Metropolitan Agency for Planning] and Transportation Enhancements [administered through the Illinois Department of Transportation].

The Lan-Oak Park District Bicycle Planning Committee

Dennis Flanagan	President, Lan-Oak Park District
John Wilson	Director, Lan-Oak Park District
Jim Clark	Resident
Scott Friesen	Illinois Citizens for the Pennsy
Chas Maracich	Commander, Village of Lansing Police Department
Rita Oberman	Board member, Lansing School District 171
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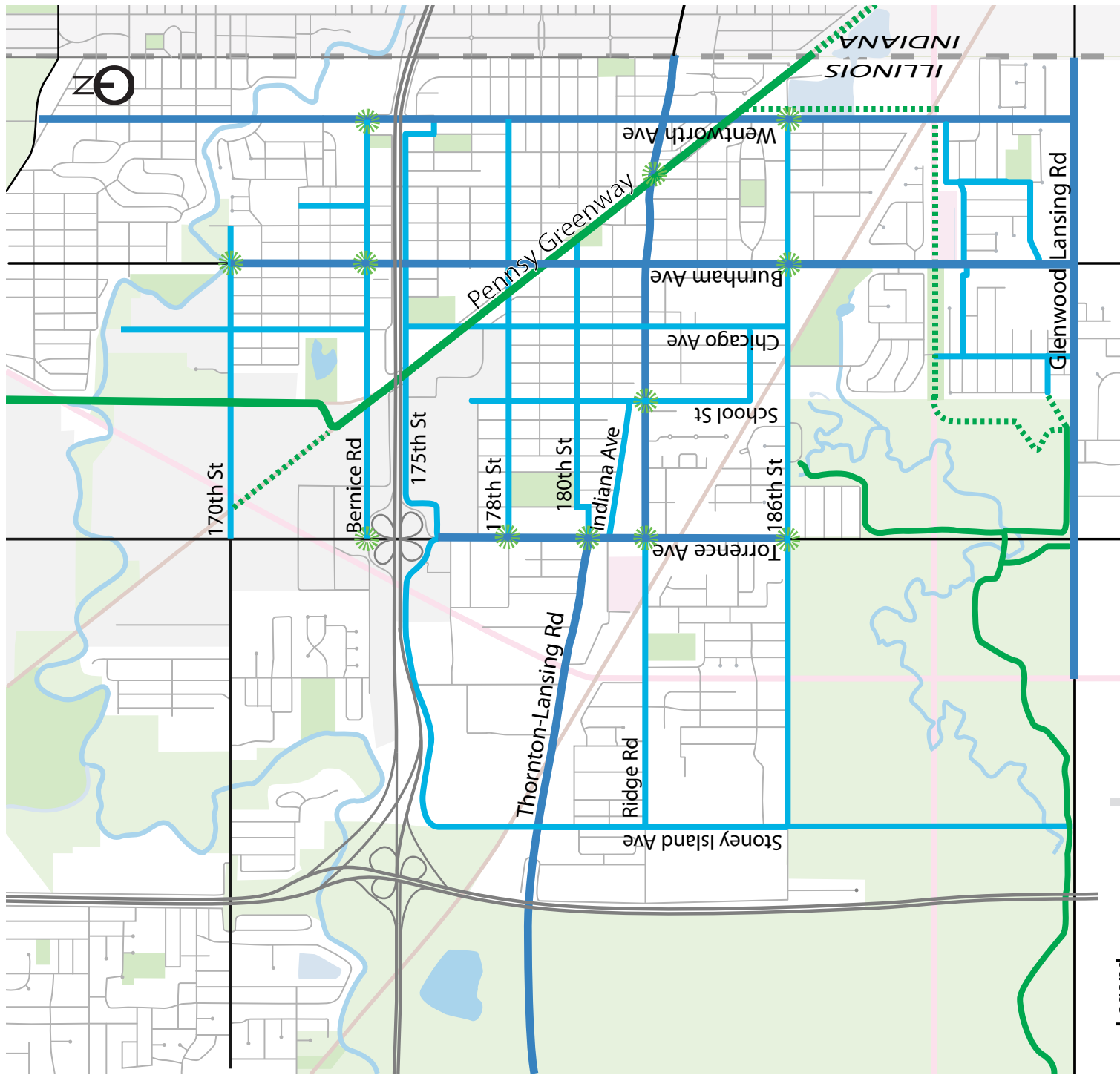
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Legend

Road and Bike Network

- Streets
- Signed Routes
- Signed & Marked Routes
- Off Road Paths
- Proposed Off Road Path
- ★ Traffic Signal Markings

Lan-Oak Bicycle Network

Introduction

On the preceding page is the proposed network of bicycle routes and facilities that forms the foundation of the Lan-Oak Park District Bicycle Plan.

The map of proposed bicycle routes speaks in the clearest terms to the goals of the plan:

- Maximize non-motorized access for all residents to the Pennsy Greenway and the expanding regional trail network in the Chicago Southland and Northwest Indiana
- Improve the safety of streets within the Lansing community for all users
- Provide a convenient network that accommodates the range of bicycle use in the Lansing community – for recreation, exercise, and transportation
- Encourage bicycling as a choice for active living and an inexpensive, non-polluting, and convenient option for local trips
- Distinguish Lan-Oak Park District as a progressive public agency meeting the challenge of rapid growth in the Chicago Southland/Northwest Indiana region through the routine accommodation of non-motorized travel

To choose these routes, residents of Lansing and nearby communities shared their knowledge and experience gained from living in and cycling in the community at two public meetings, the first on April 5, 2006 at Thornton Fractional North High School, and the second on March 5, 2007 at the Village of Lansing Police Department. This network embodies their vision of Lansing as a bicycle-friendly community.

This plan also provides guidance for bike parking and the establishment of encouragement and education programs and events that are essential to realizing a bicycle-friendly vision. This approach recognizes that barriers to cycling are not always a problem of insufficient facilities – motorist behavior and attitudes, bicyclist skill

level, and a lack of “bike culture” can discourage or prevent residents from choosing to bike.

The Lan-Oak Park District contracted with the Chicagoland Bicycle Federation to develop this plan, and, through the Bicycle Plan Committee, has been a partner in each step of its development. The Committee is formed of representatives from a broad selection of stakeholders in the plan’s development and implementation [a list of committee members current as of this writing can be found in the Executive Summary, page 1].

Economic and residential development in the Chicago Southland and Northwest Indiana are challenging communities to improve quality of life amidst escalating traffic congestion, struggling Main Streets, and diminishing opportunities for healthy outdoor activity. Lan-Oak Park District’s bicycle plan positions the community of Lansing well to meet these issues head-on, and offers to the region an important model for routine consideration and accommodation of sustainable, healthful, and enjoyable transportation.



Near-term Priorities [1-3 years]

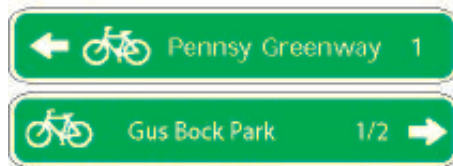
Sign the Bicycle Network

Map key [signed-only routes]: 

Scope of work: Install wayfinding and bike route signs for entire network; 30 miles

Target completion: First year

Use accepted standards for bicycle route signage that identifies the bicycle network and communicates at key points destination, distance and direction.



Lan-Oak Park District's proposed bicycle network uses many low-traffic residential streets whose current characteristics require only the appropriate signage to make them suitable for most cyclists.

Lansing's primary arterials are suitable for experienced cyclists, but beyond the comfort level of most cyclists. Appropriate signage on these streets still provides useful service to those experienced riders and normalizes the presence of cyclists for the thousands of motor vehicle drivers that use the routes daily. So this plan includes signing the entire bicycle network as a near-term priority.

Mark Traffic Signal Pavement Detectors

Map key for network traffic signals: 

Scope of work: 41 signalized intersections

Target for completion: First year

Place consistent markings at signalized intersections utilizing vehicle detector loops that show cyclists where to place their bike for detection by the loop.

Lan-Oak Park District's proposed bicycle network incorporates key signalized intersections at high-traffic cross-streets to help cyclists cross more safely, quickly and conveniently. Key signalized intersections on the bicycle network include crossings at:

- Ridge Rd. on Torrence Ave., Henry St., School St., and Grant St.
- Torrence Ave. on 173rd St., 178th St., Thornton-Lansing Rd. and 186th St.
- Burnham Ave. on 170th St., Bernice Rd., and 186th St.
- Wentworth Ave. on Bernice Rd. and 186th St.

Some traffic signal loop detectors will not detect a bicyclist regardless of the position of the bicycle. These loop detectors should be adjusted within reasonable limits to detect most cyclists and should also be a near term priority.



Stripe Shared Lanes & Bike Lanes

Map key: 

Scope of work: Install on-street markings;
6.2 miles

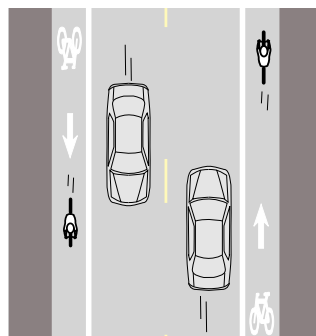
Target for completion: 2 years

On high-traffic arterials establish 5' travel lanes exclusive for bicyclists' use where width is sufficient.

Streets and segments on the Lan-Oak Park District proposed bicycle network that currently can accommodate bicycle lanes in the near term include:

- Ridge Rd. [Oakley Ave. to Burnham]
- Bernice Rd. [Oak St. to Wentworth]
- 186th St. [Chicago Ave. to Burnham]

Bike lanes offer the highest level of safety for drivers and cyclists on streets with heavy traffic. They reinforce proper roadway etiquette, raise the visibility of cyclists, and help bicyclists and drivers behave predictably when sharing road space.

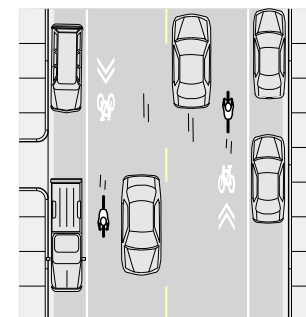


Where bicyclists must share road space with heavier traffic and available width is insufficient for bicycle lanes, mark the existing travel lane as shared space using federally accepted shared lane markings on the asphalt.

Streets and segments on the Lan-Oak Park District proposed bicycle network that fit the shared lane profile in the near term include:

- Ridge Rd. [Torrence to Oakley Ave. and Burnham to Wentworth]
- 186th St. [Stoney Island to Chicago]
- Stony/Stoney Island [Thornton-Lansing to Glenwood Lansing]

Shared lane markings help drivers to expect and accept cyclists in the street, and guide drivers in passing with caution at an acceptable distance. For bicyclists, shared lane markings encourage legal bicyclist behavior and raise cyclists' comfort level, helping them to ride more predictably and safely.

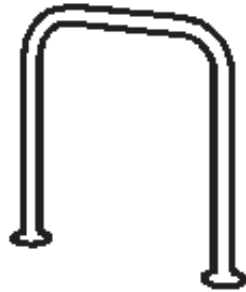


Bicycle Parking

Scope of work: Purchase and install 100 bicycle racks

Target for completion: First year

Install throughout the city “inverted-U” parking racks at public buildings, parks, and on publicly owned property near businesses and multi-unit residences.



Racks should be located within clear view of the destination’s entrance way, and preferably as close as the closest motor vehicle parking space, no more than 50 feet away.

Initial bike parking installation should focus on existing public buildings, schools, pools and parks, and the Courthouse Square. Remaining rack installations should be driven by resident and merchant request, taking care to install only on publicly owned property.

Communities like Lansing benefit from adopting a bicycle parking ordinance which mandates new construction and development to include bicycle parking per the city’s specifications. See Appendix F for a sample ordinance.

Education & Events

Scope of work: Establish bicycle programming committee

Target completion: First year

Establish a bicycle programming committee composed of city staff, the local chamber of commerce, city schools and residents to explore events and education options



Bicycling events and education programs will encourage use of the network and facilities, raise the skill level and confidence of bicyclists in the city, and grow support for implementing this plan’s mid-term and long-term bicycle network recommendations.

Here’s a sample of programs that would work well in Lan-Oak Park District:

- Safe Routes to Schools & Parks - Safe Routes programs encourage physical activity by promoting walking and biking to school and park programs and facilities.
- Bicycle Education for Children & Adults - Bicycle education classes that teach street skills, basic maintenance and rules of the road are popular around the region.
- Shop by Bike - Shop by Bike programs encourage residents to shop locally by taking their bikes on short errands, adding physical activity to their day, relieving parking issues and supporting local businesses

Lan-Oak Park District Bicycle Map

Target completion: First year

Use the established bicycle network to produce a bicycling map for the Lan-Oak Park District for free distribution to Lansing residents and businesses.

A community bicycle map encourages bicycle use by promoting the bicycle network and identifying bicycle-friendly routes to important community destinations - swimming pools, ball fields, schools, parks, restaurants and businesses. A community bicycle map also becomes a powerful message for marketing Lansing's high quality of life to prospective home buyers, developers and businesses.



Mid-term Priorities [3-5 years]

Stripe Lanes, State & County Routes

Map keys: 

Scope of work: Incorporate shared or dedicated bike lanes in planned repair and improvements on appropriate streets outside of local jurisdiction

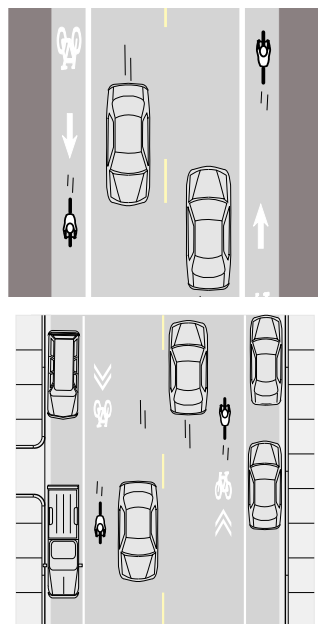
Target for completion: 5 years

Coordinating the installation of shared bicycle lanes with state and county repair and improvement plans maximizes cooperation from these agencies and creates cost efficiencies. Dedicated bicycle lanes should be considered if the project includes reconstruction or changes to a road's geometry.

Shared lane markings are appropriate on these segments:

- Wentworth Ave. - Ridge to Glenwood Lansing Rd.
- Wentworth Ave. - Tri-State overpass
- 170th St. - Torrence to Burnham Ave.
- Torrence Ave. - 187th Pl. to Glenwood Lansing Rd.
- Thornton-Lansing Rd. - West limit to Torrence

Each segment serves a small number of cyclists currently. Safety, utility and therefore use by cyclists will improve on these segments with on-street markings. Furthermore, on-street markings have proven to reduce motor vehicle crashes by 15%.



Road Diets

Map keys: 

Scope of work: Reduce appropriate four-lane segments of Torrence, Burnham and Wentworth to two travel lanes, center turn lane, and dedicated bike lanes; 5.2 mi.

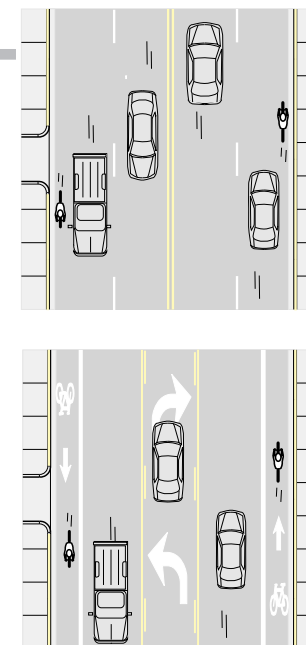
Target for completion: 5 years

A road diet improves efficiency and reduces crashes on multi-lane roads by replacing lanes with a center turn lane. This conversion moves turning vehicles out of the travel lanes, eliminating a major source of bottlenecks and rear-end collisions, and allows space for dedicated bicycle lanes.

Segments of these streets are ideal for a road diet:

- Torrence Ave. - 176th Pl. to 187th Pl.
- Burnham Ave. - 170th St. to Glenwood Lansing Rd.
- Wentworth Ave. - 176th St. to Ridge Rd.

The segments are all or partly within IDOT's jurisdiction, requiring the Village to coordinate work with that agency. To maximize cost efficiencies, conversion should be integrated into a larger repair or reconstruction project.



Long-term Priorities [Years 6-10]

Road Diets, Wentworth Ave. & Ridge Rd.

Map key: 

Scope of work: Reduce appropriate four-lane segments of Wentworth Ave. & Ridge Rd. to two travel lanes, center turn lane, and dedicated bike lanes; 1.4 mi.

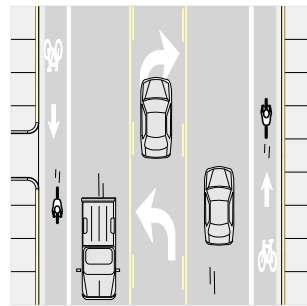
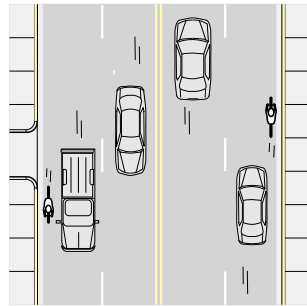
Target for completion: 6 years

These segments are appropriate for traffic lane reduction strategies:

- Wentworth Ave. - River Oaks Dr. to Bernice Rd.
- Ridge Rd. - Wentworth Ave. to State Line

This segment of Wentworth Ave., a four-lane arterial, serves substantially less traffic - 13,600 ADT - north of Ridge Rd. than south, and would be well served by a road diet conversion which would provide convenient connections for Wentworth residents to Lansing amenities and communities to the north.

Ridge Rd. east of Wentworth widens from a two-lane with parking configuration to a five-lane arterial. Converting Ridge Rd. would slow west-bound traffic in anticipation of the street narrowing at Wentworth. It would also extend Ridge Rd.'s pedestrian and bike-accessible merchant area to the state line.



Stripe Lanes, Glenwood Lansing Rd.

Map key: 

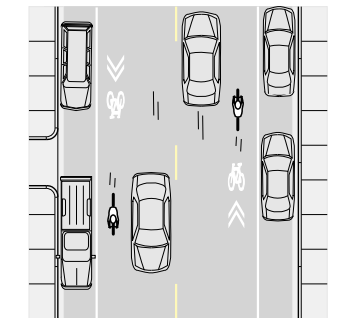
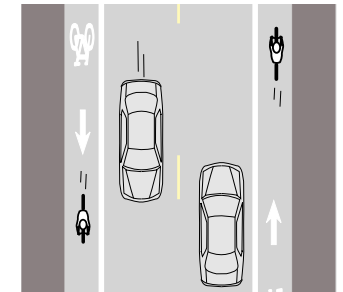
Scope of work: Coordinate added width, shared lane and dedicated bike lane markings where appropriate with county reconstruction projects; 2.7 mi.

Target for completion: 7 years

Glenwood Lansing Rd. provides a direct connection for residents along and south of the road to the Thorn Creek Trail, businesses at Burnham Ave. and Wentworth Ave., the Lansing Municipal Airport, and Indiana.

From the west limit to Burnham Ave., Glenwood Lansing Rd. is characterized as two lanes with moderate traffic volume but relatively high speeds, suitable only for experienced cyclists. Added width on this segment will allow space that can be designated for cyclists or as shared space.

East of Burnham Ave., Glenwood Lansing Rd. widens to accommodate multiple lanes. Prevailing traffic volumes and speed necessitate defining space for cyclists with dedicated bicycle lanes.



Appendices

Appendix A. Bicycle Facilities Guidance and Resources

Bicycle Lane Design Guide; City of Chicago and the Chicagoland Bicycle Federation, 2002. <http://www.bicyclinginfo.org/de/bikelaneguide.cfm>

Guide for the Development of Bicycle Facilities, 3rd Edition; American Association of State Highway and Transportation Officials, 1999. <http://www.transportation.org>

Bike Parking for Your Business; Chicagoland Bicycle Federation, 2003. http://www.catsmpo.com/bikeped/bike_parking_guide_web.pdf

Pedestrian and Bicycle Information Center, U.S. Department of Transportation. <http://www.bicyclinginfo.org/>

Chicagoland Bicycle Federation - 9 W Hubbard St., Ste. 402, Chicago, IL 60610; 312/427-3325; biketraffic.org

Appendix B. Funding Sources

Congestion Mitigation and Air Quality Program [CMAQ] - An annual program administered by the Chicago Metropolitan Agency for Planning that funds transportation facilities and programs that show an air quality improvement through the reduction of motor vehicle use. Requires 20% local matching funds. Program information: <http://www.cmap.illinois.gov/>

Surface Transportation Program [STP] - STP assists municipalities with local surface transportation improvements. Administered by South Suburban Mayors and Managers Association. Requires 30% local matching funds. Program information: <http://ssmma.org>

Transportation Enhancements Program [TE] - Administered by the Indiana Department of Transportation [IDOT]. TE funds bicycle and pedestrian facilities, bicycle education programs, and transportation-related beautification and restoration projects. Requires 20% local matching funds. Program information: <http://www.dot.il.gov/opp/itep.html>

Illinois Bicycle Path Grant Program - State funding administered by the Illinois Department of Natural Resources [IDNR] for the construction and improvement of multi-use trails and facilities. Requires 50% local matching funds; \$200,000 award maximum per project per year. Program information: <http://dnr.state.il.us/ocd/newbike2.htm>

Bikes Belong - A national association of bicycle industry members, Bikes Belong offers relatively small, one-time grants normally \$10,000 or less for bicycle facilities and bicycling encouragement programs. Funds can be used as local match. Program information: <http://www.bikesbelong.org/>

Appendix C: Recommended Bicycle Network By Priority and Segment

Segments	Endpoints	Length [miles]	Facility Type	Priority
Long-term Pavement-Marked Routes				
Glenwood Lansing Rd.	West limit to state line	2.7	markings	Long
Wentworth Ave.	River Oaks to Bernice	1.2	Road Diet	Long
Ridge Rd.	Wentworth to State Line	0.2	Road Diet	Long
Total Long-term Pavement-Marked Routes		4.1		
Mid-term Pavement-Marked Routes				
Wentworth Ave.	Bernice to 176th St.	0.3	markings	Mid
Wentworth Ave.	Ridge to Glenwood-Lansing Road	1.5	markings	Mid
170th St.	Torrence to Burnham Ave.	1	markings	Mid
Torrence Ave.	187th Pl. to Glenwood Lansing Rd.	0.8	markings	Mid
Thornton-Lansing Rd.	West limit to Torrence	1.1	markings	Mid
Torrence Ave.	176th Pl. to 187th Pl.	1.4	Road Diet	Mid
Burnham Ave.	170th to Glenwood-Lansing Rd.	3	Road Diet	Mid
Wentworth Ave.	176th St. to Ridge Rd.	0.8	Road Diet	Mid
Total Mid-term Pavement-Marked Routes		5.2		
Near-term Pavement-Marked Routes				
Ridge Rd.	Torrence to Oakley	0.3	marking	Near
Ridge Rd.	Oakley to Burnham	0.7	markings	Near
Stoney/Stony Island	Thornton-Lansing Rd. to Glenwood Lansing Road	1.9	markings	Near
Bernice Rd.	Oak St. to Wentworth	1.3	markings	Near
Ridge Rd.	Burnham to Wentworth	0.5	markings	Near
186th St.	Stoney Island to Wentworth	2.5	markings	Near
Total Near-term Pavement-Marked Routes		7.2		
Signed-Only Routes				
Volbrecht	Frontage to Thornton-Lansing Rd.	0.4	signed	Near
Paxton Ave.	Frontage Road to Thornton-Lansing Road	0.1	signed	Near
173rd St.	Bensley to Oak Ave.	0.4	signed	Near
176th Pl.	Torrence to 175th St.	0.2	signed	Near
Arcadia Ave.	Thornton-Lansing Rd. to 180th St.	0.04	signed	Near
Oak Ave.	173rd St. to Bernice Ave.	0.1	signed	Near
School St.	178th St. to 185th St.	0.9	signed	Near
Chicago Ave.	Lansing Sports Complex to Bernice Rd.	0.9	signed	Near
Chicago Ave.	175th St. to 186th St.	1.4	signed	Near
Bernadine St.	175th st. to 176th st.	0.1	signed	Near
Frontage Rd.	Volbrecht to Paxton Ave.	0.5	signed	Near
176th Pl.	Torrence to Paxton Ave.	0.5	signed	Near
175th St.	176th Pl. to Bernadine	1.3	signed	Near
176th St.	Bernadine St. to Wentworth Ave.	0.06	signed	Near
178th St.	Torrence to Wentworth	1.5	signed	Near
180th St.	Arcadia Ave. to Pennsy Greenway	1	signed	Near
Indiana	Thornton-Lansing Rd. to School St.	1	signed	Near
190th Pl	Wentworth to 191st St.	0.3	signed	Near
191st St.	190th Pl. to Oakwood	0.8	signed	Near
Sherman Ave.	191st to 193rd	0.2	signed	Near
193rd St.	Sherman Ave. to Burnham Ave	0.3	signed	Near
Oakwood Ave	190th to Glenwood Lansing Rd	0.5	signed	Near
193rd Pl	Oakwood to Wildwood	0.1	signed	Near
Ridge Rd.	Stony Island to Torrence	1	signed	Near
185th St.	School to Chicago Ave.	0.2	signed	Near
Total Signed-Only Routes		13.8		

Grand Total

35

Appendix D: Proposed On-Street Bicycle Facilities, Near-term

Street	Segment	Length	Cross Section	ADT	Jurisdiction
Ridge Rd.	Torrence to Oakley	0.3	8p-12-12-8p	17300	Local
Ridge Rd.	Oakley to Burnham	0.7	14-12t-14	17300	Local
Stoney/Stony	Thornton-Lansing Rd. to Glenwood Lansing Road	1.9			Cook/Local
Bernice Rd.	Oak St. to Wentworth	1.3	16.75-16.75		Local
Ridge Rd.	Burnham to Wentworth	0.5	7p-12-12-7p	17300	Local
186th St.	Stoney Island to Wentworth	2.5	12-12/20-20/12-12		Local
	Total	7.2			

Total Near-term Bike Lanes/Shared Lanes - 7.2 miles

Total Near-term Signed Routes - 33 miles

Appendix E: Proposed Traffic Signal Detector Pavement Markings

Intersection	No. Lanes	No. Markers	Comments
Grant St. @ Ridge Rd.	1 N/1 S	1	
School St. @ Ridge Rd.	1N/1 S	2	
Thornton-Lansing @ Torrence	2 E/2 W	4	[through & turn lanes]
Torrence @ Thornton-Lansing	3 E/3 W	2	[turn lanes only]
Ridge Rd. @ Torrence	2 E/3 W	5	[through & turn lanes]
Torrence @ Ridge Rd.	3 N/3 S	2	[turn lanes only]
Bernice @ Burnham Ave.	2 E/2 W	4	
173rd @ Torrence	3 E/3 W	6	[through & turn lanes]
Bernice @ Wentworth	2 E/1 W	3	
170th @ Burnham	2 E	2	
178th St. @ Torrence	2 E/2 W	4	
186th St. @ Burnham	1 W/1 E	2	
186th St. @ Torrence	2 W/1 E	2	[through lanes only]
186th St. @ Wentworth	1 E	1	
	TOTAL	40	

Appendix F: Sample Bicycle Parking Ordinance

Multi-family

1 bicycle parking space. for every 3 units (covered preferably)

Commercial/Retail/Office Space

Base number of bicycle parking spaces on 5% of required motor vehicle spaces (minimum 4 bicycle parking spaces./maximum 40 bicycle parking spaces)

Recreational (Community Parks or Recreational Facilities)

Minimum of 4 spaces - base number of spaces on approximate use of facility. (If facility qualifies for motor vehicle parking space requirements, base bicycle parking spaces on 30% of motor vehicle requirement.)

Educational

1 bicycle parking space per 8 students for K-12

1 bicycle parking space per 5 student for University, College, and business or specialized education campuses



Hotels/Motels

Base number of bicycle parking spaces on 5% of required motor vehicle spaces (minimum 4 bicycle parking spaces./maximum 40 bicycle parking spaces, depending on proximity to bike path system)

Exemptions - Single and two-family dwellings; warehousing and distribution; mortuaries; auto service; day care centers; car washes; drive up establishments and airports

Location and Design Elements

- Inverted-U structure preferred
- Should accommodate U-locks/chains and shall support bicycle at two locations
- Thermoplastic powder coating on racks and must be anchored securely to ground per manufacturers specifications
- Bicycle parking should be separated from vehicle parking (grade differences, landscaping, poles, etc.)
- Spaces shall be 30" x 6' per bicycle with a 5'-wide access aisle from behind. Sidewalk adjacent may serve as access site.
- Spaces should be within 50' of entrance and clearly safe and convenient (lit if necessary)
- Parking areas may be shared by two venues within 50' of one another
- Parking areas should be easily accessible from trails, sidewalks and other alternative modes of transportation

Appendix G: Estimated Costs - Near-term Priorities

Estimated costs as of 2/03/2009

Near-Term Priorities: Sign the Bike Network

Signed Routes

1. Construction

	QTY	UNIT	UNIT PRICE	AMOUNT
Bicycle Network Signing	27.8	Mile	\$3,000.00	\$83,400

2. Engineering

Design Engineering [7% of Construction costs] \$5,838

Construction Engineering [5% of Construction costs] \$4,170

TOTAL \$93,408

Appendix G continued: Estimated Costs - Near-term Priorities

Estimated costs as of 2/03/2009

Near-Term Priorities: Shared Lanes/Bike Lanes

Striped Lanes/Shared Markings

1. Construction

	QTY	UNIT	UNIT PRICE	AMOUNT
Striping - Thermoplastic Pavement Marking - 6"	72,864	Linear Feet	\$2.50	\$182,160
Striping - Thermoplastic Pavement Marking - 4"	72,864	Linear Feet	\$1.50	\$109,296
Pavement Symbols - 6' Pre-Cut Plastic Bicycle/Arrow	292	Bike/Arrow set	\$400	\$116,972
Signing	7.2	Mile	\$3,000	\$21,600

2. Engineering

Design Engineering [7% of Construction costs]	\$30,102
Construction Engineering [5% of Construction costs]	\$21,501

TOTAL \$481,632

Appendix G continued: Estimated Costs - Near-term Priorities

Estimated costs as of 2/03/2009

Near-Term Priorities: Signal Markings

Traffic Signal Lane Positioning Markers

1. Construction

	QTY	UNIT	UNIT PRICE	TOTAL
Plastic pre-cut lane position markings	40	Per pre-cut symbol	\$400	\$16,000

2. Engineering

Design Engineering [7% of Construction costs]				\$1,120
Construction Engineering [5% of Construction costs]				\$800
			TOTAL	\$17,920

Appendix G continued: Estimated Costs - Near-term Priorities

Estimated Costs - 2/03/2009

Near-Term Priorities: Bike Parking

Bicycle Racks

1. Construction

	QTY	UNIT	UNIT PRICE	AMOUNT
Inverted U, 2-bike capacity	100	Per rack	\$200	\$20,000

2. Engineering

Design Engineering [7% of Construction costs]				\$1,400
Construction Engineering [5% of Construction costs]				\$1,000
			TOTAL	\$22,400

Appendix G continued: Estimated Costs - Near-term Priorities

Estimated Costs - 2/03/2009

Near-Term Priorities: Bicycle Map

Design and production of map/marketing piece to guide route choice and promote cycling and the high quality of life available in Lansing

\$8,000

TOTAL NEAR-TERM

\$623,652