



# League of Illinois Bicyclists



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August 30, 2013

Ms. Bola Delano and Mr. Gabriel Sulkes  
Illinois Department of Transportation  
100 W Randolph, Suite 6-600  
Chicago, IL 60601-3229

Dear Ms. Delano and Mr. Sulkes,

On behalf of the board and members of the League of Illinois Bicyclists, I would like to submit the attached (lengthy) list of detailed policy recommendations for consideration for inclusion in the Illinois Bike Transportation Plan.

We are grateful to you, Sec. Schneider, and Gov. Quinn for the high level of commitment the agency has been demonstrating to bicycling issues. We appreciate the opportunity to provide our suggestions for the plan, and hope that we can continue working together constructively on these policy topics.

We believe that implementing these ideas would significantly improve the safety and convenience for those who bike by choice or by necessity. Also, Illinois' already-impressive ranking among "Bicycle-Friendly States" would surely rise!

Thank you again for your efforts, and for the many good things that IDOT already does!

Sincerely,

Ed Barsotti, Executive Director

# ***Illinois Bicycle Transportation Plan – Recommendations***

*League of Illinois Bicyclists, August 30, 2013*

## **General recommendations**

LIB offers for the plan a range of specific recommendations, below, on various topics within IDOT's span of control.

IDOT and its consultants have done much work comparing IDOT's policies to those in national standards/guidelines and in other states rated highly as "Bicycle Friendly States". LIB supports using these standards, and best practices from other states, to develop recommendations in the plan. For example, Wisconsin's design manual – and its administrative code interpreting its Illinois-like complete streets law – reinforces several of the recommendations, below, with a high level of practical detail.

## **Road project selection**

LIB recommends that IDOT's criteria for prioritizing which state road projects are needed and funded be amended to include a factor for bike and pedestrian current conditions and needs.

## **Bikeway Warrants**

The needs assessment warrants of 17-1.03, introduced in the 1990s, are good. However, for many projects, IDOT districts look primarily to the 25 bicycle ADT warrant, which is hard to predict accurately. To help reduce the uncertainty, while possibly reducing workload from Figure 17-1.A and B analysis, the qualitative statements of section 17-1.04 could be strengthened to be more detailed and definitive. For certain land uses, it can be stated that the warrants would *always* be met.

## **Bikeway Selection Table**

Having the specificity of a table is a big improvement over pre-Complete Streets implementation (2010), when bikeway policy implementation was often severely inadequate – such as one extra foot of lane width on high-speed, high-volume suburban arterials. The table was developed before AASHTO's 2012 bike guide was released. LIB recommends using the updated AASHTO guide, along with other states' best practices and our suggestions, below, to edit the table. Several of our suggestions are meant to make accommodations more feasible and cost-efficient, and thus, more likely to be implemented.

- The table's Rural Roadways' paved shoulder widths are an ideal target (but not minimum) in/near towns or in other locations where less experienced cyclists are expected. Except where there are major destinations, the vast majority of bicyclists away from towns are more experienced and traffic-tolerant. From the latter's perspective, the widths in the table are quite generous. If less width means more likelihood of implementation where only experienced cyclists are expected, then reducing the table's widths to pre-2010 policy values\* would be perfectly acceptable. (*\*Pre-2010 shoulder widths: 4' between 1000-3000 ADT, 4-6' over 3000 ADT – with 6' for 55 mph roads or >=45 mph roads with heavier truck traffic.*)

- For the Rural cross-section's >44mph, >8000 ADT accommodation, the preferred option should be paved shoulders\*, with the sidepath as an allowable secondary option. In most cases, it is unrealistic to expect that local agencies, often townships, would be willing to pay the local match or even maintain a sidepath. There could also be feasibility and "exceptional cost" issues, such as drainage ditches and more required real estate. (\* Paved shoulder widths: 8' ideal and 6' minimum within/near towns, 4-6' away from towns – per pre-2010 values)
- The Urban Roadways' part of the table calls for off-road sidepaths much more so than does the 2012 AASHTO bike guide. Especially where there are many intersections and crossings – as is usually the case in land uses having lower to moderate speed roads – sidepaths are discouraged by AASHTO, in favor of on-road bikeways. Even for higher ADT roads, AASHTO states that sidepaths *"are not intended to substitute or replace on-road accommodations for bicycles, unless bicycle use is prohibited."*

To implement these principles, LIB suggests:

- Adding a statement discouraging sidepaths where there are more than a small number of intersections or driveways – perhaps using 2012 AASHTO guide language – and requiring Bike/Ped Coordinator approval for their use along roadways below 40mph.
- Making bike lanes the primary recommendation, with sidepath "optional", for the two lower speed, >15000 ADT cases where both are now listed
- Adding bike lanes as an equal option to sidepaths, for the two 36-44mph, >8000 ADT cases
- Adding a statement that where an on-road bike accommodation (usually bike lanes) is recommended, a continuous sidewalk should be included on at least one side of the road (ideally, two), for child bicyclists
- For the Urban <30mph, 2000-8000 ADT accommodation, use 14' instead of 13-14' for the width, per AASHTO's 2012 bike guide.
- Sidepaths along roads, except those that are key parts of significant trail systems, rarely have use levels that justify 12' widths. In fact, 8' is adequate for many, in suburban-type locations. We recommend replacing 10-12' with "10' desired, 8' minimum" in the table.
- Similarly, replace 6' bike lane width recommendations with 5-6'.

### **Secondary or "next highest and best" accommodations**

BDE Chapter 17 says: *"If it is determined in the Phase I report that the recommended accommodation in the Facility Selection Table cannot be built without excessive cost, local support, or disruptive ROW considerations then the next highest and best accommodation shall be considered that can achieve the highest safety for the user and best meets the project's cost, local support, and ROW considerations. Selection of next highest and best accommodations shall be determined on a case-by-case basis by the district as many variables will need to be considered"*. It seems likely that this process would work best if more extensive guidance on fallback options were included in the BDE, and if the state bike/ped

coordinator were always involved. For example, Wisconsin's manual actually lists a primary urban bike accommodation and (in order of preference) 14 lesser "backups", to handle very specific situations. LIB recommends detailed BDE guidance on secondary or "next highest and best" accommodations, for different scenarios. Simply grading a shelf for future off-road accommodation is definitely inadequate and is a missed opportunity.

### **Resurfacing projects**

While the Complete Streets legislation exempted "*pavement resurfacing projects that do not widen the existing traveled way or do not provide stabilized shoulders*" from its full accommodation policy, one provision did state that "*bicycle and pedestrian ways may be included in pavement resurfacing projects when local support is evident or bicycling and walking accommodations can be added within the overall scope of the original roadwork*".

A low or no-cost improvement for projects not widening asphalt would be lane striping reconfiguration, where extra lane width could provide the space needed for bike accommodation. LIB recommends that such resurfacing projects be routinely reviewed for feasibility of:

- In-town: bike lanes (preferred) or, as a fallback on multilane roads, wide outside curb lanes with narrower inside lanes
- Out-of-town: paved shoulders

This, of course, may require giving up excess lane width over the desired or even minimum standard. If technically feasible to reconfigure striping for bike accommodation, the districts should present the option to local agencies. At present, it seems local agencies often have to find out about this option on their own, and then request it.

Finally, even through Complete Streets law exempts resurfacing projects from the full policy treatment given to reconstructions and expansions, each resurfacing project should be viewed as an opportunity. Where there is significant need to do so, strongly consider expanding the project scope, if needed, to add accommodations.

### **Paved shoulders and rumble strips**

Paved shoulders on rural cross-section roads benefit not only bike safety, but also motorist safety (run-off-the-road crashes) and road maintenance costs. The BDE Manual calls for paved shoulders where bikeway warrants are met. In addition to warranted roads, LIB supports the addition of paved shoulders on other roads that would not be comfortable for bicycling without them (e.g., Bicycle Level of Service worse than 3.25, away from towns).

Recognizing that this is not possible everywhere, we would prioritize roads connecting at least moderate-sized towns but having no good alternatives (see HSIP discussion, below), and routes or areas of the state with appreciable levels of bicycling activity. Wisconsin (FDM 11-46, section 15.4) provides examples of paved shoulder warrants somewhat broader than IDOT BDE Chapter 17 warrants.

Shoulder rumble strips are a detriment to bicycles, but LIB recognizes their benefits to motorist safety. If not done already, all IDOT districts, the BLR and BDE Manuals, and the HSIP program should adopt District 6's less impactful and FHWA-compliant rumble strip design detail for all locations where rumbles are added to 4-6' paved shoulders – 4" offset from edgeline, 8" width, >=3' clear zone to the right of the rumbles. This would apply regardless of whether the road is specifically designated for bikes, or not.

Our understanding is that the HSIP program currently uses this design – instead of 3' paved shoulders with rumble strips – where the BDE Chapter 17 warrants are met. This is likely too narrow of a trigger for the extra foot and more bike-friendly rumble strips. MAP-21 seems to clearly expand this, in its list of HSIP-eligible projects: *"Installation of rumble strips or another warning device, if the rumble strips or other warning devices do not adversely affect the safety or mobility of bicyclists and pedestrians...."*

Based on this, we recommend that all (state and local) HSIP-funded rumble strip or shoulder-with-rumble projects use a minimum of 4-foot shoulders, with the design detail above, as a default.

Exceptions can include:

- Locations with grading/terrain that would make 4' shoulders excessively expensive
- Rural roads having a hard-surfaced (paved, or tar and chip) alternative for the whole project length, unless the project's road provides unique access to a significant destination. The alternative road(s) should generally be within 1.5 miles of the project's road, and be reasonably bike-friendly (e.g., AADT <=1000 for 55mph, <=2000 for 30mph – or Bicycle Level of Service better than 3.25).

Shoulders with too much collected debris become unusable for bicyclists, who may ride in the travel lane instead. Besides bewildering motorists, it's a safety issue: overtaking motorists may falsely expect bicyclists to move onto the shoulder when being passed. LIB recommends that IDOT roads with paved shoulders be swept by the districts at least once per year. Priority locations are those where BDE Chapter 17 warrants are met and those IDOT rural roads not having good alternatives, as defined above.

### **Local cost share recommendation**

A big improvement of the 2010 Complete Streets policy was the reduction of the required local agency cost share to 20% - for *off-road* sidepaths and sidewalks. (Bike lanes, rarely implemented before 2010, actually had their local cost share *increased* to 20%.) As a result, more sidewalks and sidepaths have been planned into newer projects. However, from early IDOT district reports, the local match has been the source of project delays and re-engineering – both costing money, perhaps comparable to the 20% match itself(?). Local non-participation has also been the cause for accommodations being omitted entirely or significantly scaled back in adequacy.

In a complete streets policy following best practices, any bicycle or pedestrian facility's cost to local agencies would be "within the overall improvement cost-sharing formula" of the entire road project. For many projects, that equates to 100% state, 0% local. LIB recently found, from discussions with several DOT bike/ped coordinators, that this seems to be the norm in higher-ranking "Bicycle-Friendly States". Instead of separate treatment for bike/ped accommodations, using the same cost share as the overall project would be a truly multi-modal approach *more legally adherent* to the Complete Streets

legislation – which does not specify local agency cost participation refusal as an allowable exception. Finally, when specifically asked about the issue in 2002, then-candidate Pat Quinn fully supported equalizing the cost share. The proposal is LIB’s highest priority recommendation for this plan.

### **Sidewalk construction, and cost share or credit**

The issue of building new sidewalks on one or both sides of a road project was not part of the 2010 policy update. Even though sidewalks are not technically bikeways, the bike plan is probably the place to address the issue, since the plan is serving as a de facto Complete Streets review.

LIB’s recommendation is for IDOT to adopt FHWA’s “New Sidewalk Installation Guidelines” (or similar) to determine where one or two sidewalks should be built, as a function of land use and roadway classification. This table would act similarly to IDOT’s bikeway selection table. In almost all places where an on-road bikeway is warranted, so would sidewalks on one or both sides. *(It is accepted bike planning process to provide sidewalks for children, where on-road bikeways exist.)* Where a sidepath is warranted, it would serve as the sidewalk/pedestrian facility, too. Wisconsin provides good, detailed policies on simultaneously addressing both bike and ped accommodations, including situations where “excessive cost” thresholds are met or available space is constrained.

In many higher-speed suburban cases, adding just one continuous sidewalk in a road design would be a tremendous improvement for non-motorized users. If the decision is made not to accept the above “same cost share” proposal in its entirety now, then a minimum, interim recommendation is as follows. For projects for which:

- IDOT bikeway warrants are met,
- no sidewalks currently exist on either side, and
- FHWA’s “New Sidewalk Installation Guidelines” suggest that sidewalks be “required” on both sides,

Construct one sidewalk with a local match “within the overall improvement cost-sharing formula” (often, 0%). The local agency would still be required to maintain the sidewalk – common practice, and usually not a big problem, in the states we talked with. If the bikeway selection table calls for either bike lanes or a sidepath, and the local agency approves the accommodation instead of the sidewalk above, their cost share is reduced by a “credit” amount equal to 20% of what that sidewalk would have cost. In this case, if the local agency wants bike lanes and a new sidewalk on one side, the “credit” can only be applied to one of the accommodations. Local cost share for a sidewalk on the other side depends on FHWA’s new sidewalk guidelines. Where FHWA suggests sidewalks on both sides as “required”, the second sidewalk local cost share could be 20%. If not, then the local cost share could be 100%.

### **Keeping BDE and BLR manuals current**

National standards and guidelines covering bicycle facilities, crossings, etc. have rapidly evolved, especially in the last two recent decades. However, IDOT’s BDE and BLR manuals have often not kept pace. This has led to problems in the adequacy and/or appropriateness of some accommodations, in IDOT’s approval of some local agencies’ designs, and in design policies of local agencies that look to

IDOT for policy guidance. While it may seem redundant to repeat national standard/guideline content in IDOT's manuals, history has shown that it is important to do so.

LIB recommends that significant, bicycle-relevant updates in the MUTCD and the AASHTO bike guide be routinely incorporated into the BDE and BLR manuals. To cover the period of time it takes IDOT to make these specific updates, we recommend general BDE and BLR manual statements accepting design features from the most recent AASHTO bike guide and MUTCD – also including design treatments for which FHWA has granted “interim approval”.

The plan consultants have already thoroughly checked whether various design treatments from the manuals above are missing in IDOT's manuals. Some specific treatments we are interested in:

- Shared Lane Markings
- Bicycle boulevards
- Buffered, contra-flow, and left-side bike lanes
- Intersection crossing markings (dotted line extensions, color, bicycle symbols)
- Rectangular Rapid Flash Beacons, hybrid beacon for off-street path crossing (HAWK), active warning beacons
- Bike route wayfinding signage and colored bike facilities

Also, in early 2012, LIB recommended a series of BLR Manual updates. Partially based on these, IDOT proposed BLR updates in early 2013, with LIB feedback sent in a May 1 memo. We recommend incorporating LIB's and IDOT's suggestions, along with others from IDOT's bike plan team, into the BLR.

It may be that the NACTO design guide is still too new to adopt it in its entirety, especially for use in different locations throughout the state. However, LIB recommends that individual treatments from NACTO be given stronger consideration in the BLR variance process (and in IDOT's own designs) than variance proposals not in any manual. We recommend this especially for proposals with strong similarities to formally-evaluated designs in comparable places around the country. A high-profile example is protected bike lanes, which are very analogous to sidepaths. However, PBL's are usually implemented where the usual inherent sidepath intersection problems are reduced, due to better motorist stop line adherence and crosswalk user expectation, tighter turning radii, and other special intersection treatments.

### **Intersections and refuge islands**

Intersection safety was not included in the 2010 Complete Streets policy changes. In both BDE and BLR policy, IDOT gives mixed messages on right-turn corner islands, which improve safety for pedestrians and off-road bicyclists at large, suburban-style intersections having adequate setbacks. LIB recommends acceptance and encouragement of right-turn corner islands in these locations. If necessary, IDOT could take the national lead in researching and developing a Crash Reduction (or Modification) Factor for these, to better justify their use as a safety feature. We also recommend that other best practice designs improving non-motorized user safety at intersections be strongly considered for IDOT's manuals.

## **Transportation Alternatives Program**

Recommendations were previously sent in a multi-organization (including LIB) letter from April 2013, and in a July 2011 meeting and memo. These include:

- Dedicate 80% or more of Transportation Alternatives (or its successor, if similar) dollars to the bicycle/ pedestrian category. Projects should be accessible to bikes.
- Continue a regular grant schedule, with predictable application and announcement dates.
- Continue to pursue process improvements, including those previously suggested, to improve upon Illinois' historically poor state ranking in unobligated balances.
- Assign any federal rescissions and obligation limitation distribution proportionally to apportionment, not to unobligated balances, as much as possible.
- Also, if there are times when the Safe Routes to School program is not running efficiently because of understaffing issues, do not earmark a portion of that year's TAP funds for it.

## **Highway Safety Plan and 402 Traffic Safety Program**

Whether or not the US DOT adopts a specific performance measure for bike safety, LIB recommends that this be adopted at the state level. This would help in prioritizing safety funds' expenditures.

*"State representatives of non-motorized users"* are now on the list to consult for the Highway Safety Plan, according to MAP-21. We recommend that LIB or Active Transportation Alliance be involved.

We recommend a lengthier, detailed list of proposed education, encouragement, and enforcement strategies and desired programs that could provide more specificity to the priorities for Section 402 bicycle safety funding. One possibility: as proposed to Sec. Schneider and IDOT staff, LIB would gladly donate our time to run a 2014 (and annual) statewide radio ad campaign promoting bicyclist and motorist use of LIB's [bikesafetyquiz.com](http://bikesafetyquiz.com) educational resource, using 402 funding for the ad time.

## **Bicycle/pedestrian coordinator position**

After the 2010 Complete Streets policy implementation, the state bike/ped coordinator role gained more authority at the road project level. The coordinator role should be strategically placed within IDOT's organizational structure and staffed with an appropriately-trained, motivated professional, to provide technical expertise on projects and training to peers, and otherwise implement the plan's goals – with credibility and authority. The role is big enough that indirectly-related, non-technical tasks (e.g., Recreational Trails Program paperwork) should be assigned to others.

## **Technical training for project and design staff and consultants**

Mentioned at the July plan input meetings was Minnesota's program and performance measure of training appropriate staff and consultants on bicycle facility design and safety issues. LIB recommends the same for Illinois. In the past, we had offered to partner (at no cost) with IDOT's bike/ped coordinator on trainings at district offices, combining a seminar on design issues with content on relevant IDOT policies. That offer still stands.



## **State bicycle maps**

Continue IDOT's fine tradition of publishing and distributing bicycle maps of its 9 districts, with the following improvements:

- As is done in Kane County's bicycle map, apply corrective terms for paved shoulder width and truck volume percentage to the Bicycle Level of Service formula, for input ranges outside of the BLOS model range of validity. LIB has information on how to do this.
- Use a more intuitive color progression scheme. Also, instead of using BLOS grades A, B, C, D, E, and F as the color levels, assign levels as follows, for a more uniform distribution: A and B, high C (2.50-2.99), low C (3.00-3.49), high D (3.50-3.99), low D through F (over 4.0).
- The trail inset maps currently do not add very much, particularly since resolution and surrounding features' detail do not improve much in them. Detail and resolution should be improved, to justify use of this space. Even if that occurs, some of the trails are not significant enough to warrant the space.
- Bike maps are a great place to convey bike safety information. Prioritize and eliminate some of the other text content and perhaps some inset maps to make room for more bicycle safety information or graphics – as LIB has done in its metro area maps (Rockford, Springfield, Decatur, Champaign-Urbana, and Aurora). At the minimum, prominently promote LIB's [www.bikesafetyquiz.com](http://www.bikesafetyquiz.com) resource on the maps.
- IDOT's bike maps rate roads in IDOT's IRIS database. Generally, in metro areas, IRIS only has a town's busiest roads – often not the roads preferred by local cyclists. Due to this, IDOT's maps are not especially useful in metro areas (especially District 1). As a result, LIB, Active Trans, and others have created metro area and local bike maps to portray more realistic networks of preferred routes. At minimum, these maps should be acknowledged (with links) in IDOT's maps. Ideally, IDOT's maps would incorporate route info from these other maps, if map scales allow.

## **Accommodation performance measures**

Adopting road corridor bike and pedestrian accommodation measures would have applicability in road project prioritization, initial project scoping and budgeting, evaluation of design alternatives and before-after conditions, and review of finished results. Bicycle Level of Service is recommended for on-road adult bicyclist comfort, and is recommended by LIB. We have found Pedestrian Level of Service and the bike section of Multi-Modal LOS less than ideal. From our own Complete Streets audits, we can offer a methodology normalized to a roadway's context with:

- A pedestrian component, based mainly on adherence to FHWA's "New Sidewalk Installation" guidelines
- A bicycle component, based on the higher of a Bicycle Level of Service baseline and possible points for various on-road and/or off-road bikeway types, where used appropriately
- A component for roadway crossings
- A context-sensitive component