

# Stalled.

*Louisville's failed attempt to build an  
Urban Bicycle Network,  
why that's bad for everyone,  
and how to fix it*



An urban bicycle network is an essential ingredient to a healthy city. Louisville has been attempting to build an urban bicycle network since 2004, and yet it still has none. Without intervention, Louisville will *never* have an urban bicycle network.

When Lexington decided to build an urban bicycle network, it enlisted the enthusiastic cooperation of Kentucky Transportation Cabinet District 7, and now their network is largely complete. Perhaps not coincidentally they have roughly double Louisville's share of bicyclists.<sup>1</sup>

## Why is Louisville failing?

It is vital for **Kentucky Transportation Cabinet District 5** to support bicycle transportation. With their control of state roads and penchant for nitpicking any engineering proposal that benefits bicycling, they have slouched into a silent veto of the construction of an urban bicycle network. They do not take any initiative to improve bicycling. When Public Works tries to focus them, they miss the opportunities to collaborate.

**Public Works** also lacks a team that can conduct successful public planning processes and wed the output to safe engineering. Without this, they end up building isolated bicycle facilities, which become wasted infrastructure that do not connect to a network.

**Bicycle lanes and paths *alone* are not likely to increase bicycle commuting.  
Bike lanes and paths need to connect popular origins and destinations<sup>2</sup>**

This report shows how an urban bicycle network is an inexpensive investment that pays for itself almost instantly in public health.

## How can Louisville succeed?

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<sup>1</sup> As gauged by the only ridership study we have, which measures frequent bicycle commuters. See *2010 Bike Commuting Data released*, Darren Flusche, League of American Bicyclists  
<http://blog.bikeleague.org/blog/2011/09/2010-bike-commuting-data-released/>

<sup>2</sup> Dill, Jennifer and Theresa Carr, "Bicycle Commuting and Facilities in Major U.S. Cities: If you build them they will come – another look" Transportation Review Board 2003 Annual Meeting.  
[http://www.des.ucdavis.edu/faculty/handy/ESP178/Dill\\_bike\\_facilities.pdf](http://www.des.ucdavis.edu/faculty/handy/ESP178/Dill_bike_facilities.pdf)

To get a bicycle network built by 2015 three things must change:

- **KYTC District 5** needs to complete a few bicycle transportation links at key locations in the city.
- A public agency needs to have a **planning-driven approach** that can engage the community. This could be KYTC-5, Public Works, or Metro Planning & Design.
- **Leadership** must make the case that some sacrifices must be made in order for the public good to be served.

## Economic Case for a Bicycle Network

Jim Ballinger, chief district engineer for KYTC District 7 (Lexington) says the costs of on-street bicycle facilities are “negligible”.

Meanwhile, Louisville loses approximately a billion dollars per year to the effects of inactivity.<sup>3</sup>

If Louisville chooses to build an urban bicycling network, it will induce more people to ride bicycles as part of their daily routine. These people are much less likely to suffer from the effects of inactivity.

This can be quantified. According to 2010 ACS data, 0.4% of Louisville residents are committed bike commuters - they choose to ride their bike to work more than any other mode.<sup>4</sup> Suppose that number could be increased to match Lexington’s 0.7%. The public health savings from just these new cyclists would be over *\$2 million dollars per year*. Completing the ‘Starter’ network outlined below would cost a third of that, one time only<sup>5</sup>. After the first four months of changed behavior, the network will have paid for itself in improvements to the health of Louisville’s population. Thereafter it would be a perpetual competitive advantage for our city.<sup>6</sup>

This advantage accrues in terms of a community with more production, lower costs of doing

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<sup>3</sup> \$910,482,235/year - \$1600/person according to the calculator at <http://www.ecu.edu/picostcalc/>. Inputs from 2010 census: 569162 adults, 343175 employed (civ+military), 13.4% of adults age 65 & up, median income for workers of \$27,414, 82.3% of average KY workers are inactive. Outputs: medical care costs: \$231 million, Worker’s comp: \$2.4 million, lost productivity: \$677 million, total: \$910,482,235/year

<sup>4</sup> 2010 Bike Commuting Data released, Darren Flusche, League of American Bicyclists

<http://blog.bikeleague.org/blog/2011/09/2010-bike-commuting-data-released/>

<sup>5</sup> Removing existing pavement markings and restriping costs around \$10 per foot. It could be done even more cheaply by waiting for a repave, but given the health numbers that’s a false economy.

<sup>6</sup> Of course, this ignores many other factors, some in favor, some against. It is possible that the narrower or slower streets resulting from the reconfiguration will save someone’s life from a traffic crash. Fewer motor-vehicle lanes will may cause more frequent motor vehicle congestion. The ACS survey only deals with the most frequent travel mode to work, so it massively undercounts occasional bike commuters, to say nothing of utilitarian bicycle trips for non-work purposes, or even induced recreational trips. These factors are more difficult to quantify, however.

business, and a more efficient workforce - that is not something that benefits a narrow special interest of existing cyclists, but everyone. Even motorists!

Furthermore,

Riding a bicycle instead of driving a car has economic impacts that are not always obvious, often because the costs and benefits are borne and accrued by society in general rather than the individual user. Researcher Todd Litman of the Victoria Transport Policy Institute has attempted to quantify the benefits of switching from driving to bicycling. He looked at the benefits of congestion reduction, roadway cost savings, vehicle cost savings, parking cost savings, air pollution reduction, energy conservation, and traffic safety improvements. Litman estimated that replacing a car trip with a bike trip saves individuals and society \$2.73 per mile. (A typical two-mile bike trip would save \$5.56.) The benefits would be enormous if even a small fraction of the more than 200 billion miles Americans drive each month – nearly three trillion a year – were shifted to bike. (For an indication of just how enormous, consider that nearly 30 percent of all trips in Copenhagen, Denmark are by bicycle. A 30 percent mode-share in the U.S. would lead to an estimated savings of \$163.8 billion a month, nearly two trillion dollars a year.)<sup>7</sup>

The value of any transportation network goes up with the number of possible trips that can be made upon it. Since every location served in a bicycle network can serve either as a start point or a destination for any given trip, the value of the network goes with the square of the number of locations in the network. Given this reality, it makes the most sense to build a single well-connected bicycle network rather than a larger number of disconnected corridors.

## **Build a ‘Starter’ Network**

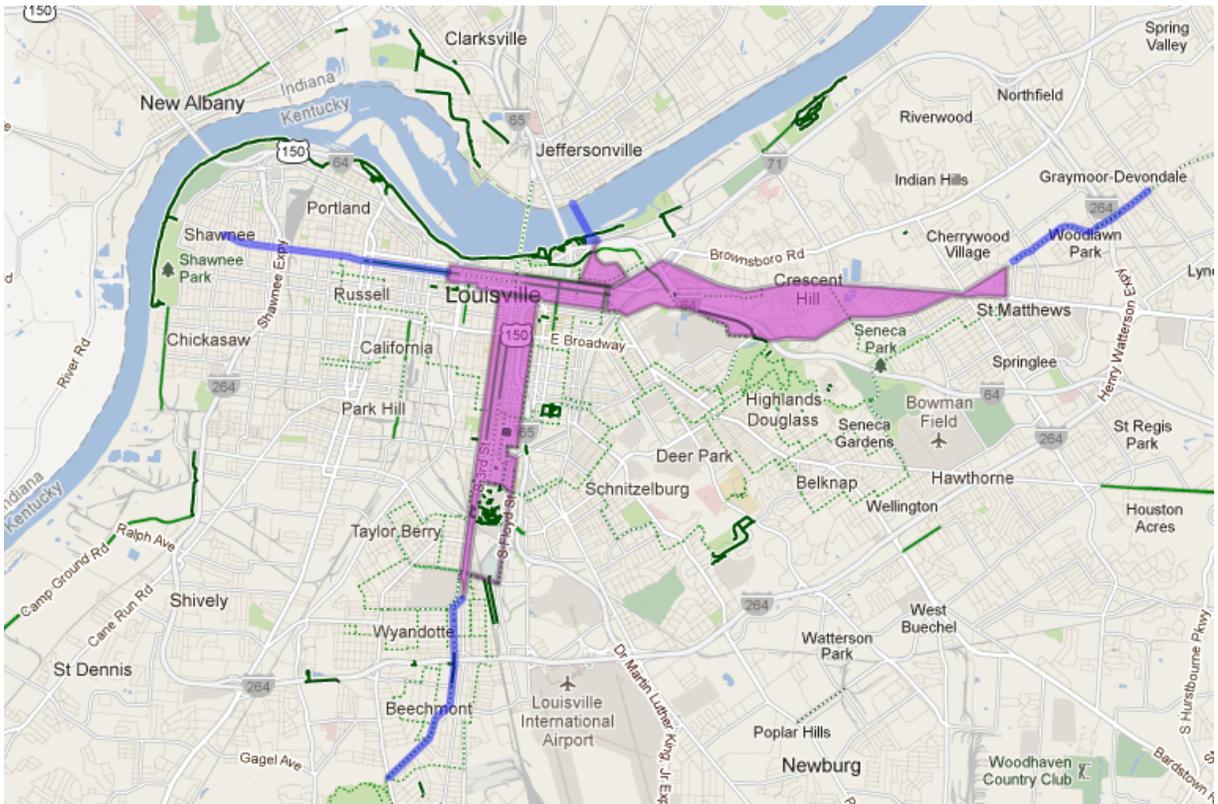
Louisville has had two “Bicycle Summits” during which great promises have been made and significant action plans have been drafted. These plans are large, and many elements of them have been successfully implemented, to the benefit of existing cyclists and cycle tourism. However, we still are waiting to see a large increase in trips by bicycle. Thus we have not reaped the public health dividends, air-quality dividends, and energy independence dividends we could achieve. Obviously, no number of bicycle programs can convince the public to ride if they don’t feel safe on the road. The celebrated success of the Mayor’s Hike, Bike, and Paddle is due in part to pent-up demand for people to feel safe cycling on our city streets. Imagine if they built in that kind of fitness opportunity every day as part of their commute.

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<sup>7</sup> The Economic Benefits of Bicycle Infrastructure Investments, Darren Flusche, League of American Bicyclists, [http://www.bikeleague.org/resources/reports/report\\_economics.php](http://www.bikeleague.org/resources/reports/report_economics.php)

As Gil Peñalosa recently chided Louisville: we need to step back and separate things that are *nice to have* from things we *need*. He says we *need* an urban bicycle network.<sup>8</sup>

Bicycle transportation professionals in government know where a starter bicycle network must go. It would link existing salvageable bicycle facilities. It would connect each 'end' of town to the city center:



Blue lines represent already built infrastructure. Shaded regions are areas where an on-street urban bicycle network will have to lie, but the exact alignment is a matter for the public to decide.

<sup>8</sup> Sustainable City Series, 3/15/2012, Glassworks, 815 W Market St, Louisville KY. Video archive at <http://www.youtube.com/watch?v=q6zrJPRRSU> 13:50 to 17:30.

# Definition of an Urban Bicycle Network

Because Louisville has a patchwork of unconnected bicycle infrastructure, many people don't understand what an urban bicycle network means. Bicycling for Louisville's advocacy committee has biked in dozens of cities both nationally and internationally. We have discussed the features of the network hundreds of times. We believe these are the features of an urban bicycle network that will improve public health through increased ridership:

- [Visible & On-street](#)
- [Urban](#)
- [Simple & Fast](#)
- [Contiguous](#)
- [Well-designed](#)
- [Destination-focused](#)

## Visible & On-street

The point of the bicycle network is to persuade people to use bicycle transportation. Visibility will allow it to self-advertise.

On-street facilities keep infrastructure costs negligible: it is just rearranging lines of paint on the road. Even today, this is very, very cheap. \$600,000 for the entire 'starter' network proposed above, and cheaper still if it's timed to coincide with road repavings.<sup>9</sup>

The opposite of on-street facilities are off-street trails. If opportunities arise for off-street trails, they should *of course* be seized upon, but in practice good opportunities are rare, complicated to execute, and expensive. By their nature, off-street trails find it difficult to address destinations with sufficient granularity to be useful. These natural hurdles are so high that it's hard for even famously "bicycle friendly" American cities to make off-street trails effective for creating frequent bicycle riders. The literature agrees:

We found that proximity to **off-street bicycle trails had no effect on bicycle use**. However, **on-street bicycle lanes significantly increased the odds of bicycle use** among subjects living within 400 meters of such a facility compared to those living more than 1600 meters away.<sup>10</sup>

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<sup>9</sup> *Costs of Complete Streets* from the National Complete Streets Coalition has much more on the costs <http://completestreets.org/webdocs/factsheets/cs-costs-2.pdf>

<sup>10</sup> Proximity to Trails and Retail: Effects on Urban Cycling and Walking Kevin J. Krizek and Pamela Jo Johnson <http://carbon.ucdenver.edu/~kkrizek/pdfs/Walk%20and%20bike%20demand.pdf>

## Urban

Urban is about *access*. It serves the most destinations, in the smallest footprint, with the highest concentration of people, for the fewest dollars. In these ways, its goals are completely different from that of the Louisville Loop. The two are not interchangeable.

## Simple & Fast

The network must be simple to navigate. It should stay on the same street for miles and miles. This makes it easy for everyone to understand.

Long, simple routes can attract cyclists from further off-network, focusing their numbers. This increases safety and it increases the *feeling of safety*. When the streets feel safe, more people will bicycle.

Winding routes slow down cyclists with unproductive turns. These delays make bicycling a less competitive transportation choice.

## Contiguous

Think about why you don't bicycle everywhere you go. It's a combination of time and difficult spots in the road. Any break in the network is a trip killer. This network needs to start from downtown, and grow out. Other bicycle engineering projects that rely on the same technical staff need to be sidelined, because they don't contribute to overall network value.

Here is a case study which illustrates this point: a bicycle-commuting Louisvillian moved from Old Louisville to St Matthews. His job was on Mellwood. He now had a 99% dream bicycle commute through Seneca and Cherokee, up Beargrass Creek Trail, and on the Spring Street bike lanes. Unfortunately for him, to get to that beautiful infrastructure he has to ride for 60 seconds on his home street of Cannons Lane. No alternative route existed. That narrow road features unimpeded 45 mph flow from the expressway. As a result of motorist harassment induced by speed-obsessed roadway engineering, he has stopped bicycling to work. His new inactivity is obvious to anyone who looks at him. There are different ways of dying in traffic. One of them is inactivity induced by lack of transportation choices.

The lesson here is that difficult connections are extremely important in making a popular network, and as such they deserve outsized attention. We assign zero value to a bicycle facility that does not connect to the larger network.

## Well-designed

It goes without saying that an unsafe facility is a failure.

Some existing facilities do not meet current safety standards. Bicycling for Louisville does not recommend people ride their bicycles on these facilities.<sup>11</sup> These include bike lanes on East Market, East Main, and 2nd street. If these streets are to serve in the bicycle network, they need to be re-engineered to modern specifications. Unfortunately, in all cases this will require removal of a lane - either a parking lane or a travel lane. Or, it may be better to remove the bike lane itself, and place a different facility on a parallel street.

## Destination-focused

The point of transportation is to get people to places.

In some cases the riverwalk and the park system roughly shadow routes in the 'Starter' network above, but that is irrelevant for boosting bicycle usage.

Transportation provides *access* to locations. Retail, worksites, and schools tend to concentrate motor traffic. That makes them difficult to access by bicycle without help. It is exactly these destinations that are most neglected by our efforts up to this point. It is exactly these destinations that become accessible with a new focus on an urban bicycle network.

## Conclusions

Louisville has not delivered on its promise to build an urban bicycle network. Building an urban bicycle network makes economic sense and serves the public good. The large cities that have not done so are fast becoming exceptions. If Lexington can do it, Louisville can do it. To get back on track three things must change:

- **KYTC District 5** needs to complete a few bicycle transportation links at key locations in the city.
- A public agency needs to have a **planning-driven approach** that can engage the community. This could be KYTC-5, Public Works, or Metro Planning & Design.
- **Leadership** must make the case that some sacrifices must be made in order for the public good to be served.

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Bicycling for Louisville  
David Morse / Chair of Advocacy  
dave@bicyclingforlouisville.org

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<sup>11</sup> These 12' parking+bike lanes force cyclists to ride in the "door zone", where an inattentive driver or passenger opening their car door can cause a cyclist to unexpectedly veer out into traffic. This is known as "dooring" and it accounts for 8% of car-bike crashes. The solution is simple: much wider bike lanes.