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Carlo Moneti
707 Sumner Ave
Syracuse, NY 13210
http://arsteca.net/i81

To: Mark Frechette
Director, I-81 Viaduct Project
I 81Opportunities@dot.ny.gov

I-81 Viaduct Project: Comments on October 2016 Update

Overview

I was pleased to see in the October I-81 Redevelopment Project update that several details of the Community Grid alternative are aligning more and more with suggestions community members have made over the past 2.5 years. These include: (1) a possible underpass roundabout at Teall Ave/I-690 junction; (2) Bringing West St/I-690 ramps to grade (remove flyovers); (3) redirect Butternut St bridge to Clinton St; (4) additional Almond St junctions south of Adams St (e.g., MLK Dr); (5) flow Almond St under the railroad; (6) limit Almond St to 2 travel lanes each way; (7) re-align Evans St to Franklin Square entrance intersection; (8) make Crouse Ave two-way; and (8) reduce the spaghetti junction near the junction of Oswego Blvd and Erie Blvd and re-establish a couple blocks of Oswego Blvd and Pearl St thereby creating space for a possible "canal-themed district" and park. The new design feature that moves the I-690/Almond St junction to I-690/Irving/Crouse Aves is an interesting one, which I address along with several other features in more detail below.

However, I must continue to insist that the Community Grid alternative overall remains fundamentally flawed. Principally because, as I argue below, it needlessly maintains and enlarges a limited-access highway (ex I-81N) between Destiny Mall and I-690, and also adds "missing" flyover ramps to I-690. This enlarges the spaghetti junction in one area although current plans reduce it in other areas. Since northern "I-81" remains and the spaghetti junction remains and even most of Almond St will remain as a limited access arterial, the Community Grid alternative is in fact better described as the "Rebuild I-81" alternative with a minor option to remove one viaduct (i.e., in front of the hospitals).

A true street grid alternative would replace northern I-81 with multiple upgraded streets and intersections to distribute traffic efficiently from the edge of the city near Destiny Mall to their myriad destinations downtown and beyond. By eliminating northern I-81, the spaghetti junction becomes obsolete and need not be rebuilt—a savings of hundreds of millions of dollars. In its place would be two simple compact street-to-highway junctions downtown. This would open up a tremendous amount of downtown and North Side land for development. In addition, there would be the potential for two new pedestrian/public-transit oriented ways that join together at a new ~4 acre park downtown in front of the Canal Museum and near City Hall. This feature would lead to brand new highly desirable mixed-use residential/commercial neighborhoods as well as an excellent path and infrastructure for a meaningful and economically enhancing Canalway Trail.

Following are detailed comments on various aspects of the current Community Grid option.

Onondaga Creekwalk Improvements

The simplification of the West St/I-690 junction conveniently creates substantial new usable space to re-align the creekwalk along the creek and creates a potentially quite desirable green space. I heartily welcome the creekwalk improvement.

West St/I-690 Junction Redesign

The elimination of the flyover ramps in favor of bringing ramps to grade and passing under I-690 is an excellent idea that will greatly improve the aesthetics of the area and will cost less to reconstruct and maintain. It also recognizes that fast connections to West St are superfluous since West St is only a 30 mph city street. I am however surprised that an underpass roundabout junction was not considered/mentioned as an option, especially since it is being seriously considered for the Teall Ave/I-690 junction. Also, Evans St should connect to West St to better connect the North Side. Lastly, it is worth noting that the footprint of the junction would be quite smaller and more attractive if the proposed I-81 "missing" flyover ramps are not added.

New "Missing" I-690W/I-81N Flyover Ramps

I am thoroughly against the addition of these ramps, and not just because I am against a "Rebuild I-81" alternative. The ramps were left out 50 years ago for good reason. Bear St provides a convenient shortcut alternative. Although the travel time via Bear St would be a bit longer than via the proposed flyovers, the difference is only a minute or so. That does not justify the additional blight and the taking of land this addition creates. There are far superior design options for the Franklin Square entrance area—as I depict in my Revision_3 submission. Not building these ramps was one of the few right decisions made 50 years ago.

Butternut St Bridge

Re-aligning the bridge to connect directly to N Clinton St is an excellent idea. This is a crucial step toward re-establishing the connection between north and south Clinton St and cleaning up the intersection and area around the entrance to Franklin Square—as I depict in my Revision_3 submission. Unfortunately, these design consideration are not part of, and are in fact undermined by, the current Community Grid plan. For example, The new I-690 alignment plus the "missing" flyover ramps now thoroughly engulf the Franklin Square entrance.

Add 4th Lane To I-81 North

I am thoroughly against adding a 4th lane northbound and southbound to ex I-81N from I-690 to Hiawatha Blvd. The 4th lane is not needed for carrying traffic (two through lanes are enough); its purpose is to provide space for traffic backups caused by congestion at the exits during rush hour. This congestion is created by the highway itself. It collects traffic from the suburbs and channels it like a sewer to a couple of major exits in the city without the means to then properly disperse that traffic efficiently. Adding lanes does not address the fundamental problem: a limited access highway that brings too much traffic to too few places in the city. Highways are for connecting cities; the street grid is for distributing traffic to its myriad destinations within the city. The highway should end at the city limit.

A better solution is to extend and upgrade Clinton St, Genant Dr, State St, Salina St, and Lodi St to carry current I-81 traffic in a distributed manner into the city. Doing so will enhance economic development along those streets and paves the way to convert I-81N roadbed into a pedestrian/public-transit oriented way, along which a new mixed-use neighborhood can be built—all of which I depict in my Revision_3 submission.

Reconfiguration of I-481 North and South Interchanges

For the I-481 South interchange, I suggest constructing a roundabout at the convergence of the I-81 exits, Almond St, and the new connector road.

Downtown I-81 Oswego Blvd and Pearl St ramps

The current Community Grid plan proposes an "I-81N" exit and onramp at an extended Oswego Blvd and Pearl St, respectively. These streets will be heavily trafficked as they will be the default route for downtown destinations, and one or both will probably be made one-way to form an arterial type road unpalatable for development. These will cut through the proposed "canal-themed district". This would seem to undermine the successful development of any such district.

In addition, the Oswego Blvd exit leads to a narrowed 1-lane Montgomery St across Erie blvd, a limited path for most traffic. There is no street at all across Erie Blvd from Pearl St. So virtually all traffic to and from these ramps will need to cross two intersections in order to continue south (or north): one to get on Erie Blvd, then a second to get off Erie Blvd. This will slow traffic. My impression is that these new ramps as currently designed will not work well and will undermine the proposed development of the area.

> Note: The design concept of bringing the I-81N road to a terminus (in this case an exit) along the old Oswego Blvd was considered by me 1.5 years ago. That was part of my *Revision_2* document which was rejected and never published. In my design, I contemplated transforming I-81N into a boulevard. However, I was unsatisfied with how it would be the default route of current I-81N traffic and would lead too much traffic to one exit. I also saw that the terminus at Erie Blvd did not lead traffic directly to useful primary streets. I needed a solution that would disperse traffic much earlier.
>
> Then it occurred to me that the I-81N roadbed was redundant on the street grid; that it splits a normal-sized block (~500ft) in two; that it just didn't lead to any place desirable on the street grid; that existing streets such as Clinton St, Genant Dr, N State St, N Salina St, and Lodi St, extended, fixed and upgraded were better aligned to form a well distributed grid to carry existing I-81N traffic; that the I-81N roadbed, which was originally the Oswego Canal, wasn't needed at all; and that the presumption that this roadbed was surely necessary was in fact obstructing my ability to recognize other superior alternatives. The result of my analysis was my *Revision_3* submission, which revises the northern pathways to downtown and the I-690 connections.
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> I have to add that, with I-81 transformed into a boulevard, the concept seemed a poor solution but workable since traffic would learn to leave the road at the several intersections before Erie Blvd. But in the context of a limited-access highway, the concept looks far dimmer. And if adding more exits to I-81N is considered to compensate, it would only reinforce the argument that a street-grid solution is inherently more flexible.

Downtown I-81N Clinton St Exit

The current I-81N SB downtown exit splits traffic 3-way to Franklin St, Clinton St, and Salina St. The new design sends all traffic to Clinton St. Although this is compensated in part by the new exit at Oswego Blvd, the number of exit intersections are reduced from 3 to 2. Also, onramps are reduced from 2 to 1 (Pearl St).

The depicted new "missing" I-81/I-690 flyovers connect to I-690 west of West St such that I-81N SB traffic cannot use them to reach West St, and West St traffic headed to I-81 NB cannot use them to reach I-81N. Therefore, West St cannot be used as an indirect onramp or offramp path for I-81N inbound or outbound traffic.

> Note: In comparison, my *Revision_3* plan reconnects North and South Clinton St, and provides a half junction at I-690/Clinton St (EB onramp, WB offramp). Clinton St provides a two-way north/south path, a bonus in flexibility but also provides easier and more predictable navigation. Being on the street grid, one can cross from Clinton St to Franklin St and also to West St via Evans St as desired. These paths are two-way as well. Of course, traffic will be better distributed across Clinton St and the other major north/south streets previously mentioned. This seems a far more flexible and effective traffic solution.

New I-690 Junction at Irving and Crouse Aves

My understanding is that DOT moved the proposed I-690 junction at Almond St to Irving and Crouse Aves for two main reasons: (1) the proposed high-speed ramps require bridging Erie Blvd, which would impact local street connectivity by severing McBride, Willow, and Water Streets; (2) to reduce traffic on Almond St which would attract much of I-690 and I-81N traffic by default. Both points are very valid, but only in the context of the DOT specific Community Grid proposal.

Firstly, there are solutions to make an I-690/Almond St junction perfectly attractive and viable. For example, the I-690 junction could be built as an efficient compact urban street-to-highway junction (e.g., "underpass roundabout"), thus eliminating the bridging and the space consumed by high-speed ramps. See fast_compact_urban_interchange (slip lanes optional).

Secondly, a true "street grid" alternative would not send the majority of current I-81 southbound traffic onto Almond St and so require a presumed much wider Almond Blvd—which is not desirable. My *Revision_3* submission replaces I-81N with multiple city streets that would carry I-81N traffic in a much more distributed manner into the city. With that plan, neither Almond St nor any other city street would require more than 4 travel lanes. (Extra wide streets reflect poor overall design.)

Having I-690 junctions only at West St and Irving/Crouse Aves leaves a fairly large gap of access to I-690 downtown. Erie Blvd would draw most of the traffic shimmying West or East to reach the I-690 junctions.

For those reasons, I propose the I-690/Almond St junction be studied further in the context of a true "street grid" alternative such as my *Revision_3* submission (or a similar concept). I further propose adding a junction at I-690/Crouse Ave. Since it is close to Almond St, there is only space for a 1/2 junction (WB offramp; EB onramp). It's purpose is to capture eastern traffic destined to University Hill area. This will reduce Almond St traffic even more, and will serve much of the purpose of the proposed Irving/Crouse junctions. I suggest that junctions at Almond St and Crouse Ave together will serve the area better than the Irving/Crouse junction.

Almond St Design

A wide green median has its aesthetics. But if its to be 20-30 feet wide, careful thought should be given to its potential practical uses. Otherwise, the space may serve better if apportioned to broader sidewalks, etc.

I agree with providing no more than two travel lanes each way. (I would insist on this even with an I-690 junction at Almond St.)

The current layout of the street seems almost to purposely consume whatever ROW is available. The street should be made only as wide as needed or useful, with strong consideration for space for new construction on either side of it. Successful development requires appropriate space.

I recommend the generous use of roundabouts along this road. But do not make them larger than necessary. Two-lane roundabouts of no more than 160ft diameter should handle all vehicles appropriately. For an urban 30 mph street, the roundabouts should be designed for flow volume, not speed. (In fact, speed should probably be discouraged.)

Ideally, Erie Blvd would become a pedestrian/public-transit oriented way[1] and not need a roundabout; Washington St would reconnect between Forman Ave and Crouse Ave and, along with Water St, would carry current Erie Blvd traffic, which adds merit to placing roundabouts at these two streets.

I disagree with the expressed vision of Almond St remaining a limited-access arterial road along its length south of MLK Dr—north of which a normally connected city street begins. It amounts to a lost opportunity to re-grade the road further south (remove the berm) and make it desirable for development along its full length. By connecting at-grade to major and minor streets all the way to the I-481/I-81 junction, Almond St can develop into a new and economically prosperous thoroughfare to compliment S Salina St. We should consider better the next 10-20 years.

New I-690 Viaduct

The latest designs show I-690 with 3 travel lanes (plus ramp lanes) all the way across downtown. The current I-690 has only 2 effective travel lanes (plus ramp lanes) across the downtown spaghetti junction (this is true for I-81 as well). I believe DOT has not given a reason for this lane increase. If a highway and its ramps are designed appropriately, there should be no reason for extra lanes to hold backed-up traffic. Also, consider that in the latest DOT plan—and even more so in my *Revision_3* plan—there should be much less traffic that actually crosses downtown on I-690. Most westerly, northerly, and easterly commuter traffic would exit at West St, Oswego Blvd, and Irving/Crouse Aves, respectively. So the volume of traffic crossing downtown on I-690 should be much less than at present. Therefore, I don't see a reasons to add travel lanes on I-690 across downtown.

Keeping travel lanes and ramp lanes to a minimum will reduce the footprint of I-690. A more slender viaduct is less obtrusive and more attractive. The extra space will allow Canal St to be rehabilitated and extended to State St (as it used to be) so that it can service buildings on the north side of Erie Blvd if in the future Erie Blvd is chosen to be converted into a pedestrian/public-transit oriented way and the Canalway Trail.

Lastly, it seems much more thought should be given to the aesthetic design of the to-be-rebuilt downtown I-690 viaduct. After all, it cuts through downtown and will border the new proposed "canal-themed district". How tall should it be? Should it be built as a mundane utilitarian structure or artistically architected or built in the traditional arcaded style? How might the space underneath it be used? This is a big deal. It will have a large effect on the desirability and economic viability of the land around it.

[1] The pedestrian oriented way could initially include one travel lane each way (slow street); the traffic could help attract development interest. Then, after some years, the way could be made exclusively pedestrian/public-transit, according to demand.

Conclusion

I praise DOT for incorporating more and more public input into the project alternatives, especially the Community Grid alternative which seems to be by far of the most interest to the community. However, as noted above, there are several concerns with the latest design. I argue these design problems exist because a full true "street grid" alternative has not been fully embraced. The remaining obstacle is DOT's presumption that I-81N between I-690 and Hiawatha Blvd cannot be replaced by multiple upgraded streets. This undermines a well distributed and flexible flow of traffic into the city that would make other components of the Community Grid plan function harmoniously. There is a huge extra bonus in eliminating I-81N: the "missing" flyovers and the spaghetti junction itself become obsolete; the money to build/rebuild them can be spent elsewhere; and no buildings will need to be demolished. I continue to urge DOT to apply to northern I-81 the same street-grid thinking it applied to southern I-81; to review my *Revision_3* submission more deeply; to remember that a highway through a city (especially a small city) is a choice and never a requirement; and to be reminded that 50 years of experience across the country has demonstrated that a highway through the city is a bad choice, one that many cities are currently trying to undo. Now is the opportunity of a lifetime for Syracuse to do the same.

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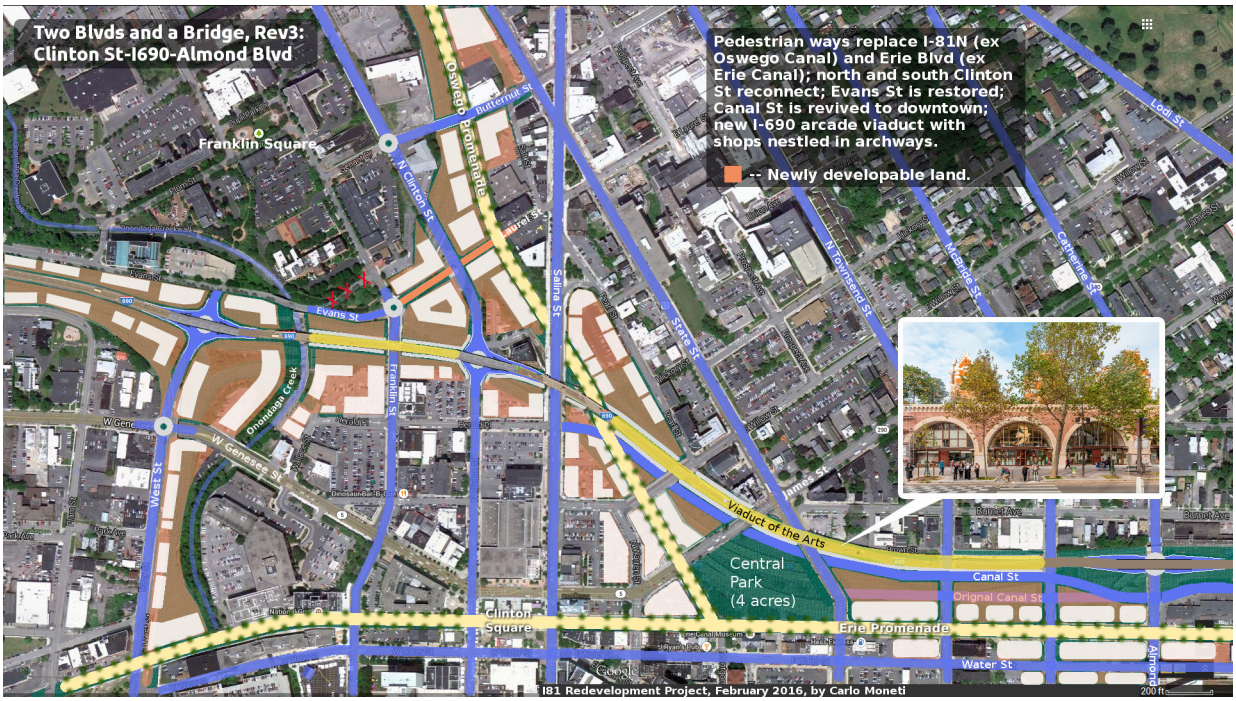

Figure 1: Downtown streets redesign from *Revision_3* of *Two Boulevards and One Bridge,* a proposal for the I-81 Redevelopment Project, http://arsteca.net/i81.