White Paper

Ann Arbor Station Location

University of Michigan Medical Center, by Flickr user Chris Dzombak

Let's Think Carefully about the University Hospital Site

Partners for Sustainable Progress

Prepared by Laurence J. Krieg

2014-09-29 (version 1.5)

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White Paper: Ann Arbor Station Location

Executive Summary

The Ann Arbor station has the most boardings and deboardings of any railway station in Michigan. Almost everybody agrees that it is overcrowded and does not meet current expectations for accessibility. A study is therefore underway to replace it, with three sites under consideration, including the current location.

It is in the choice of a site that the general agreement breaks down. One site, on North Main Street, seems favored by relatively few. It is clearly beyond walking distance from any Ann Arbor destinations, and presents serious challenges to transit providers due to the heavy traffic and narrow right-of-way on North Main. And one feature which initially appeared favorable – the possibility of transit-oriented development nearby – has disappeared due to the estimated size of the station facility and the constrained land area, a narrow strip hemmed in on two sides by parks.

The primary contention is between the current station location and one at the foot of the bluff on which the University of Michigan Medical Center (UMMC) and Hospital stand. It is this choice that we focus on here.

Opposition has been galvanized against the hospital site due to its having been at one time designated as city parkland. This designation has been cast into question through an arrangement between the City and the Veterans Administration whereby a grove of old-growth trees was saved, and the land is currently leased by the University as a parking lot for UMMC staff. While the "parkland" designation of the land may be disputed, it is not our intention to do so here. Far more important is the relative contribution of the hospital site to the environmental sustainability of our community as compared with the current site. Those who object to the hospital site on the grounds that it should be a park are well-intentioned, but seem to have lost sight of the far greater positive environmental impact a station at the UMMC location would have. We show here that locating the station by the hospital is better for both practical and environmental reasons.

As a transportation hub, the hospital location is superior to the current location because (1) it is adjacent to the largest and fastest-growing employer in the region, at this time the work-place of about 20,000 people, while the current location is an awkward distance from both downtown, the hospital, and the campuses of the University; (2) it is currently served by some of the most intense public transportation in the region and will be the site of the lynch-pin station of the "Ann Arbor Connector" high-capacity transit line currently being planned, while the current location is awkward to serve with transit because of the street design and would be expensive and impractical to serve with the Connector; and (3) the Connector will give rail passengers access to the University's North Campus, Central Campus, and downtown Ann Arbor with a single transfer.

"MiTrain" commuter equipment leased and refurbished by Michigan Department of Transportation (Credit: MDOT)

From the standpoint of ecology and sustainability, the UMMC site also has advantages over the current site, even if the "parkland" designation is valid. (1) When commuter rail service between Ann Arbor and Detroit is placed in service (tentatively 2016-17) access to both the hospital and the Connector will bring practical non-automobile-dependent commuting within reach of a far larger number of people; (2) transportation from train to Ann Arbor destinations will be possible in potentially zero-emissions vehicles (depending on the likely selection of electric vehicles for the Connector), but the need to use buses from the current station will make that more expensive and difficult; and (3) both sites are about equidistant from the potential transit-oriented development known as "Lower Town", while vacant property next to the current station will almost certainly be developed in the near future regardless of the new station's location.

There remains the issue of (putative) parkland designation for the UMMC site. We will show here that (1) the UMMC location is surrounded by hundreds of acres of parkland and would occupy only a small percentage of that land; and (2) a much more desirable site for parks is available to mitigate any loss of parkland.

We conclude that a careful look at the choices will lead to the clear conclusion that siting a station by the University of Michigan Medical Center is clearly the best choice from both the practical and the environmental points of view.

Introductory

Our top transportation priority now should be to provide healthy, sustainable options for people to get where they need to be. The Michigan Department of Transportation (MDOT) is working hard to provide options, with both intercity and commuter train services in the works. MDOT has already taken ownership of the east-west rail corridor and has plans to fund the commuter rail operation between Detroit and Ann Arbor for the first three years of service, beginning in 2016 or 2017, when capacity improvements to the rail line are completed[1]. The State has leased and refurbished 23 bi-level railcars for commuter service. SEMCOG, which is planning the service, initially intends to run two Ann Arbor-Detroit round-trip trains each weekday in the morning, one round-trip midday, and two round trips in the evening[2]. For regional service, Amtrak now runs three trains each way between Detroit/Pontiac and Chicago; MDOT Office of Rail is acquiring new rail equipment to increase service on this line to (eventually) ten round-trips daily. This is being done at the encouragement of Governor Rick Snyder, who understands that passenger rail service leads to economic growth. Thus the new Ann Arbor station is being planned to host about thirty trains each day.

Trains are only options, and personal cars – as unsustainable as they are – are clearly the personal favorite of most people

But these trains are only options, and personal cars – as unsustainable as they are – are clearly the personal favorite of most people. To make other alternatives attractive, or even viable, Ann Arbor's new station must be located where the greatest number of people can either walk or take transit directly to and from their destination.

The current station location has much to recommend it, but is hampered by being just beyond the distance most people are willing to walk, especially in bad weather. In addition, the streets around it are limited in capacity and challenging for buses to negotiate.

On the other hand, locating the station at the foot of the University of Michigan Hospital can provide direct, walkable access to Ann Arbor's largest and rapidly growing employer, together with high-capacity transit access to North Campus, Central Campus, downtown, and potentially the South State Street employment clusters, when the "Connector" is completed. In fact, to locate the primary intercity and commuter terminal where the Connector is not accessible will greatly reduce the return on citizens' investment in ***both*** of these transportation facilities.

Only this location answers all the requirements except one: it would be located on city property designated (but not used) as parkland. For two reasons, this is really a minor consideration. First, because this location is already surrounded by nearly 300 acres of public park and recreational land; and second, because it is relatively easy to mitigate the loss of park land in better locations, such as the former DTE Energy site near the current Amtrak station.

Though we've heard a lot of opposition to this site, a closer look shows that it is actually the best site from an environmental as well as economic and practical perspective.

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[1] Timothy Hoeffner, Director, MDOT Office of Rail, to Michigan Association of Railroad Passengers, 2014-09-13.
[2] Based on statements made at several public presentations by SEMCOG and MDOT Office of Rail officials.

A Word about Cars and Trains

There are both general and specific reasons to reduce dependence on personal vehicles in Ann Arbor by offering a rail-based option as a supplement. In general, automobiles – for all their convenience – are a source of multiple problems in 21st Century America.

Cars

Most of us know these effects of private vehicles, but they're worth reiterating here:

- Automobiles' use of fossil fuels leads to dependence on powerful corporations and/or foreign nations;
- These fuels are associated with about 30% of the carbon emissions that are wreaking havoc on our climate;
- Use of automobiles is implicated in America's obesity, stress, and a host of associated health problems.

Even as the fuel efficiency of automobiles improves, Ann Arbor is choking on automobiles due to effects most people don't think about:

- Each personal vehicle requires approximately three parking spaces: one at home, one at work, and an average of one for shopping, entertainment, and multiple types of errands.

In general, automobiles – for all their convenience – are a source of multiple problems in 21st Century America.

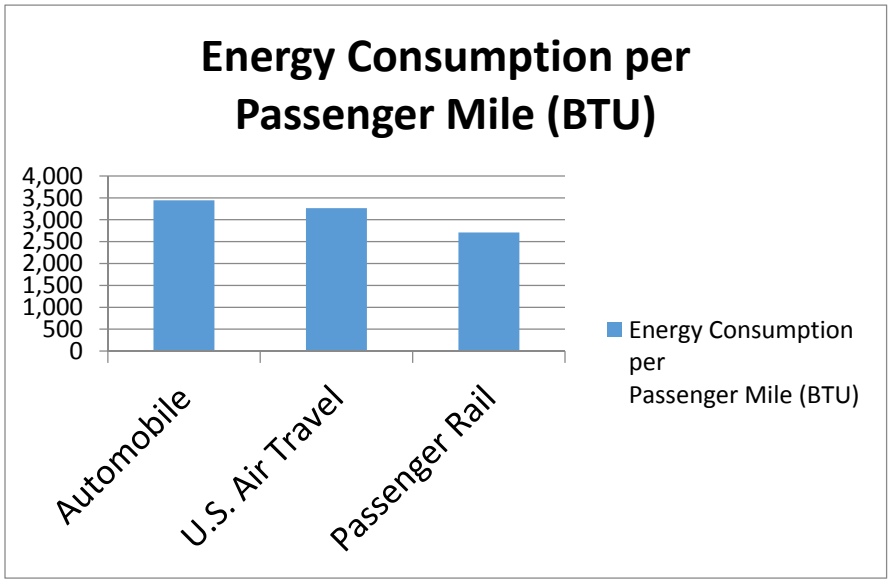
- Need for parking drives up the cost of everything. The recently-built "Library Lot" in Ann Arbor cost roughly $72,000 for each space. City parking structures are not taxed, and of course neither are University facilities of any kind.
- When the University Medical System built their latest structure on Wall Street, it was bitterly opposed by nearby residents. Nobody wants a parking structure near their residence – but in our present auto-dependent transportation scenario, everybody needs one at their destination.
- Without good alternatives to driving, a city will choke on traffic and parking. Los Angeles discovered this in the 1980s. Remember the road-rage shootings? (We've had some here in Michigan as well.) L.A. bumped up hard against the limits of a city dependent on private vehicles, and now has one of the best new rail-and-bus systems in the country. Congestion on Ann Arbor's streets and surrounding thruways has increased noticeably in recent years.
- We're running out of space to widen roads and add parking, but more people are being hired to work in Ann Arbor.
- As the price of vehicles, fuel, and insurance have gone up, wages for ordinary working people have not. It is increasingly difficult – but no less necessary – for many working folks to afford a car, let alone the multiple cars necessary for families who can't survive without two or more jobs. It's a matter of environmental justice, as well as sound economics to put in place the best public transit system we can.

All these are reasons for us to improve the alternatives to private vehicles. But why are trains the best alternative, and does the location of the station matter?

Trains

Moving vehicles over rails offers several advantages over private vehicles.

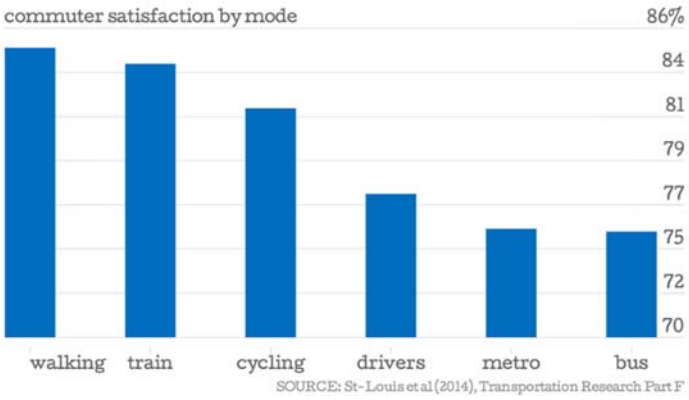
1. Steel wheels on steel rails have a much lower coefficient of resistance than rubber on asphalt or concrete. This is what allows trains to move more weight for longer distances using less fuel than other modes. [3]



2. Trains allow more people to be moved compared to the number of operating personnel, because rail-cars can be added without necessarily adding more staff. For example, the rail cars refurbished by MDOT (under contract to Great Lakes Central Railway) have a capacity of 130-140 people each[4], so a three-car train with one engineer (driver) and one conductor can seat 420 people (210 per staff member) compared to 40 per staff member in the type of buses commonly used by AAATA, DDOT, and SMART.[5]
3. Passenger rail service has been documented to attract more riders than buses, the other common public transportation alternative. In Los Angeles, when new rail lines were opened to passengers, ridership increased to 269% of previous bus ridership along parallel routes.[6] A recent study in Montreal[7] found that 85% of people who ride commuter trains to work are

[3] *Vision for the future U.S. intercity passenger rail network through 2050.* Prepared by the Passenger Rail Working Group December 6, 2007
[4] According to Nippon Sharyo, manufacturer of similar cars: http://www.nipponsharyousa.com/products/pages/zusametra-pc1994.htm
[5] Gillig Corporation: http://www.gillig.com/lowfloor.htm
[6] Scott Page, Director of Planning, Los Angeles Metro. "LA Bus-Rail Interface White Paper", unpublished, 2012.
[7] "The happy commuter: A comparison of commuter satisfaction across modes". Evelyne St-Louis, Kevin Manaugh, Dea van Lierop, and Ahmed El-Geneidy. In Transportation Research Part F: Traffic Psychology and Behaviour, Volume 26, Part A, September 2014, pp. 160–170 (Received 29 July 2013, Revised 3 June 2014, Accepted 20 July 2014, Available online 12 August 2014) http://www.sciencedirect.com/science/article/pii/S1369847814001107

satisfied with their commute. This compares to 86% satisfaction among people who are able to get to work by walking; all the other modes were less satisfying. *The Atlantic Citylab*[8] charted it this way:



Trains are the most environmentally friendly, operationally sustainable, and passenger-attractive public transportation alternative, but only ***if*** the station is optimally located. If people have to walk farther than they're comfortable with, they'll keep driving. If shuttles to and from a train station are crowded, time-consuming, and uncomfortable, people will keep driving. In the equation of private versus public transportation, the public alternatives need to bend over backward to be seen as attractive. That's just how the variables stack up.

But let's turn for a moment to look at walking. It's an important part of the transportation equation, too.

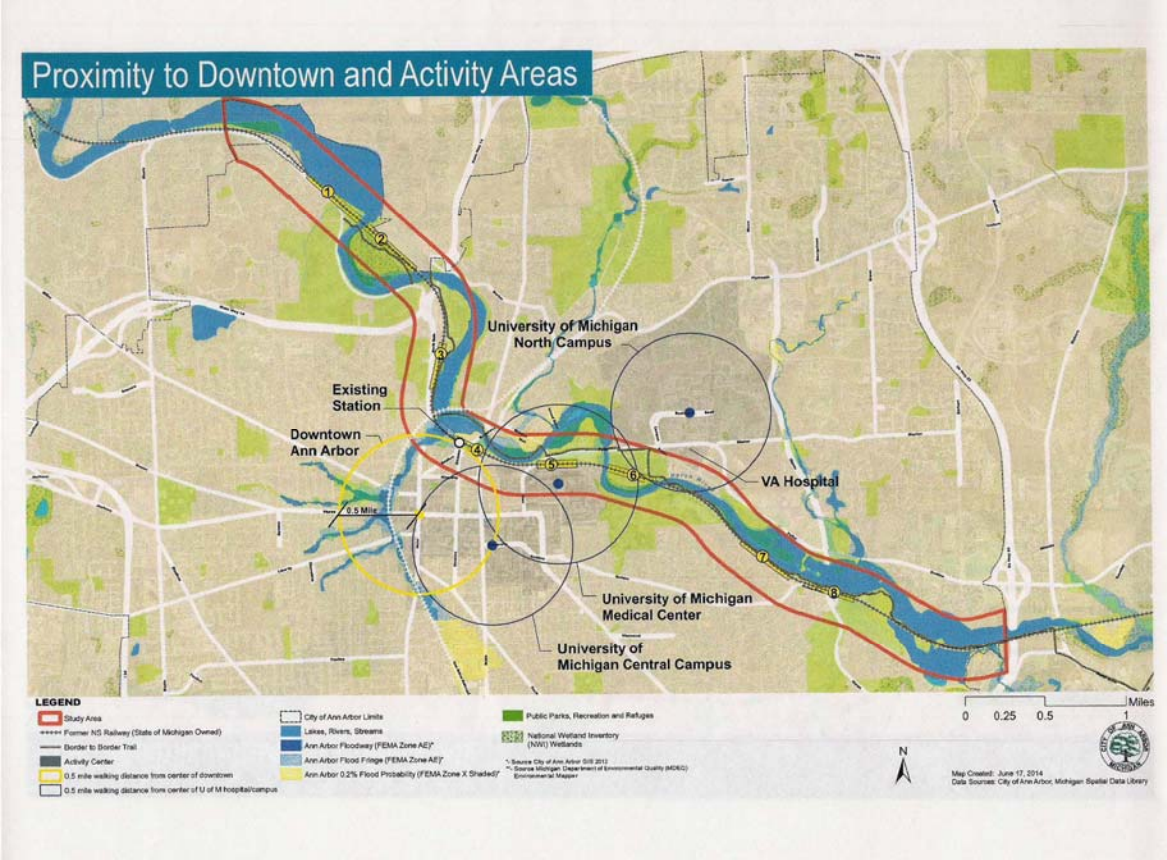
About Walking

Walking and biking are ideal, in many ways, for getting where you're going. They require no fossil fuel, they're healthy exercise, and they're fun… sometimes. Ann Arbor is known as a place where quite a few people do it, though Ann Arbor *didn't* make it to Walkscore's "Top 10 Most Walkable College Towns".[9]

Michigan is not a place where the weather is favorable for either walking or biking *all* the time. Especially with an aging workforce, transportation needs to be in place to get people where they're going reliably, in bad weather as well as good. We need to be aware how far people are generally willing to walk in any kind of weather, too.

[8] "Which Mode of Travel Provides the Happiest Commute?", by Eric Jaffe, August 20, 2014. http://www.citylab.com/commute/2014/08/which-mode-of-travel-provides-the-happiest-commute/378673/
[9] Walkscore: "Top 10 Most Walkable College Towns". December 16th, 2013 by Katie Rooney. http://blog.walkscore.com/2013/12/top-10-walkable-college-towns/

The consultants from URS, who are conducting the preliminary station site study for the City of Ann Arbor, included a map with a half-mile circle around each of several prime destinations:



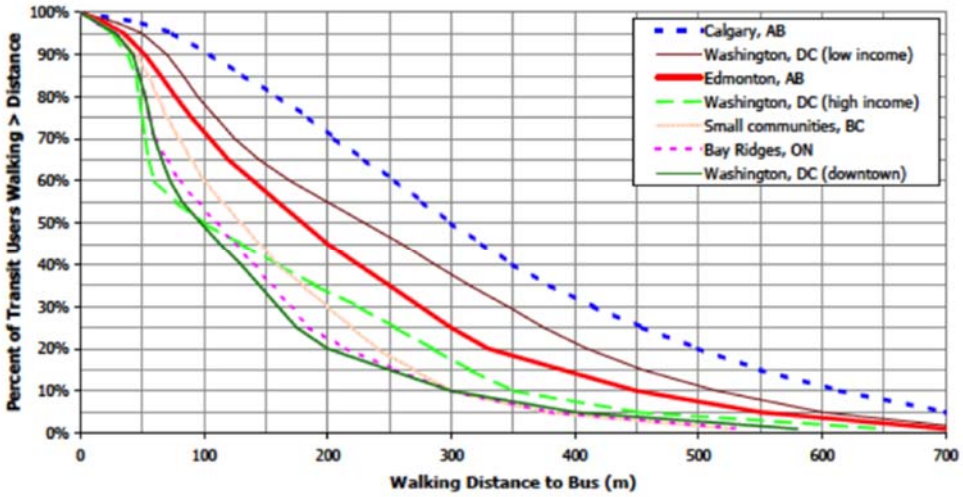
The circles show that the current Amtrak station on Depot Street is at the very edge of the downtown half-mile circle (yellow), and is outside the half-mile circle for Central Campus, Medical Center, and North Campus. The hospital station location is well within the Medical Center circle, of course.

Trains are the most environmentally friendly, operationally sustainable, and passenger-attractive public transportation alternative, but only *if* the station is optimally located.

But is ½ mile a distance we can expect people to walk? The Ann Arbor Area Transportation Authority has as a goal placing its bus stop within ¼ mile of 90% of the population of Ann Arbor. Is that a more realistic distance to expect people to walk?

Fortunately, there have been a number of studies that can give us insight. Some of these are summarized in the following charts.[10] *(Next page)*

[10] Transportation Research Board of the National Academies, *Transit Capacity and Quality of Service Manual—2nd Edition*, Part 3, Appendix A http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp100/part%203.pdf, Appendix A.



practically nobody was willing to walk more than 700 meters to get to a bus – that's a little less than ½ mile

The chart summarizes surveys asking people in five communities how far they would be willing to walk to a bus stop; colored lines indicate the responses. In Washington, D.C., responses for high-income, low-income, and downtown residents are shown separately. Along the bottom of the chart is the distance, in meters, to a bus stop. The higher a point is in the chart, the more likely a person is to walk to a bus stop.

Looking at this chart, we see that practically nobody was willing to walk more than 700 meters to get to a bus – that's 0.43 miles, a little less than the ½ mile circles used by the consultants for our station study. Some people – but only about 15% of those surveyed – are willing to walk ¼ mile, which is 402 meters. How far will most people walk? Well, the hardy residents of Calgary (dotted blue on the chart) claimed the greatest willingness: half of them walked up to 300 meters, which is about 3/16th of a mile, a bit less than the ¼ mile goal used by AAATA. Using the Edmonton folks (red line) as "middle of the pack", we can expect no more than about 175 meters walking for most commuters.

the most important factor to consider is the planned "Connector"

Where does that leave us? Only the station by the hospital is in walking distance of any significant destination, and – due to the steep hill – only with a connecting elevator/escalator. That means that to get significant numbers of people to work from either new station site, we must have some sort of transit.

And to be realistic, it will require transit that is convenient, fast, and frequent to most destinations. Where can we get that?

"Connectivity is Everything"

It has long been known that in public transportation, "connectivity is everything". Those who have visited developed countries in Europe and Asia testify that the railway station in nearly every city and town is a major local transportation hub, with buses, trams, subways, and commuter trains all converging there. Without this sort of connectivity, travel without a car is difficult, confusing, time-consuming, and often impractical. That's why the goal for Ann Arbor's new station is to be an intermodal terminal connecting to local, regional, and national destinations.

The current Amtrak station site could be designed for accessed to Broadway, providing good north-south connectivity, but Depot Street, the east-west access road, is a major bottleneck during rush hours and poorly connected to Broadway. It is two lanes wide, and can't be easily widened due to geographic and property constraints. Though it is possible to bring buses to the station (both Amtrak and AAATA do so now), the larger numbers of buses required for shuttling commuters would seriously add to the congestion, and would be slow to reach their destinations.

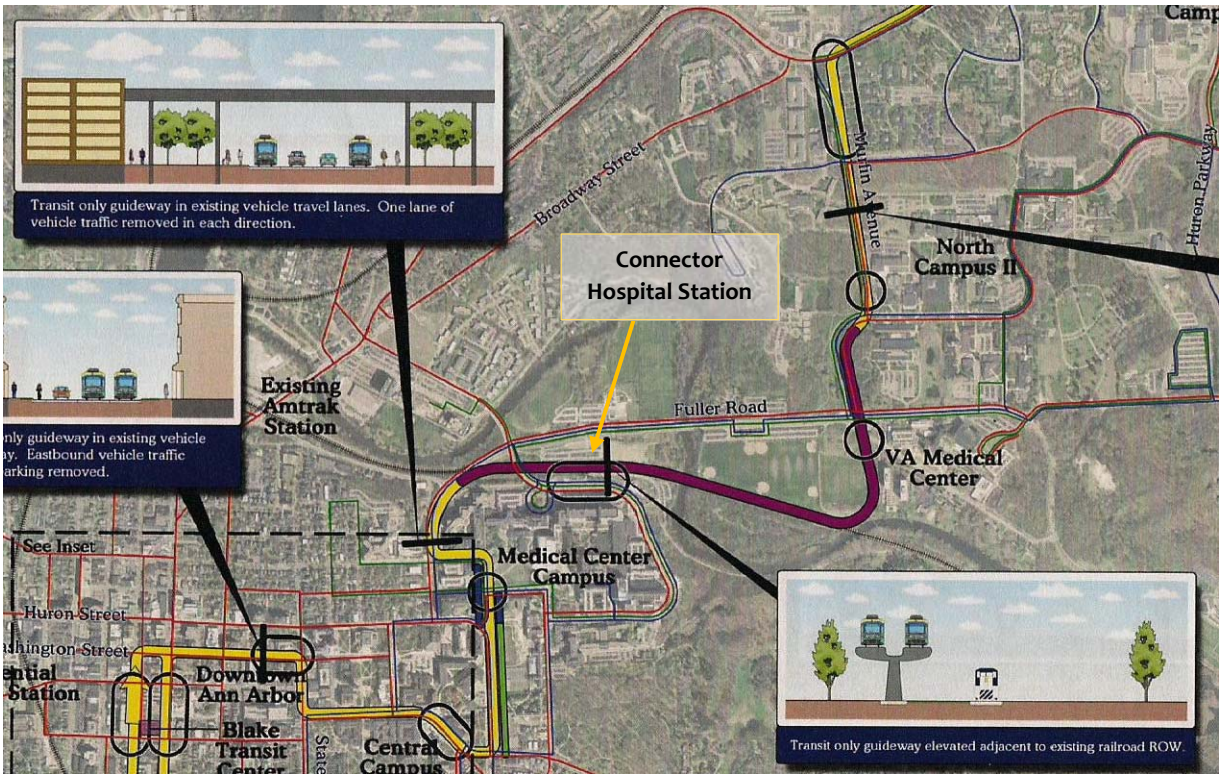
It would be highly inefficient and ineffective to build a new railway station and *not* site it near the planned Connector.

The Hospital location provides somewhat better road access on Fuller Road, which has four travel lanes and left-turn lanes at strategic locations. This, together with Maiden Lane (two travel lanes) and Glen Avenue (four travel lanes plus left-turn), provides north-south and east-west roadway connectivity. These roads, like all roads in popular destination areas, become quite congested during peak travel times.

There are already numerous buses serving Fuller Road and Glen Street, both by AAATA and University Transportation. But the most important factor is the "Connector", a high-capacity transit line being planned separately but simultaneously with the new station. Though its construction is not certain, it is highly likely because of the great expense it will save the University.[11] Although a final preferred combination of route-segments has not been announced as of this writing, all the options have the Hospital as their pivotal station[12]. And because of the terrain, the Connector's Hospital station location is immediately adjacent to the railroad right-of-way. None of the possible route-segments are sited anywhere near the current Amtrak station location, because doing so would take it far from the other major destinations it is intended to serve. It would be highly inefficient and ineffective to build a new railway station and ***not*** site it near the planned Connector. The map on the following page[13] shows one of the preliminary route alternatives in the area of the Hospital. Though the preliminary route alternatives differ in other aspects, the route around the foot of the hospital is

[11] The expense of running multiple, frequent buses to transport personnel between the widespread University campuses is one part of this expense; the other is the cost in money and land of building adequate parking close to centers of University employment. Unofficial but highly credible sources assure us that the University is willing to pay its fair share of the cost of high-quality, high-capacity rapid transit to reduce these expenses.
[12] Six potential routes have been identified as feasible from the engineering standpoint; data modeling is being used to determine the best combination of route-segments to meet future demand and have minimal impact on traffic.
[13] City of Ann Arbor etc., and URS Corporation, "The Connector Preliminary Route Alternatives, Alignment F".

the same in all. (Note also that by siting Connector and railway stations in close proximity and connecting them, an escalator+elevator access to the hospital would serve both.)



Why this Hospital?

The University of Michigan Medical System is the single largest employer in Washtenaw County. As a world-class medical facility, it attracts talented specialists from near and far, as well as patients and their visitors, to nearly a thousand hospital beds in a state-of-the-art facility. Many out-patient visits and procedures are scheduled in its multiple clinical facilities. In addition, research is conducted on a wide range of health-related areas. Medical staff[14] (as of this writing) consists of 22,754 at all levels, together with 1,908 academics at the Medical school, and 2,226 volunteers who help at various times. These are totals for the Medical System as a whole; of these about 25% work at other Ann Arbor sites, or at clinics in other cities and towns. The Medical Campus itself thus has about 20,000 people working in it, not counting patients and visitors, all within potential walking distance of a station located at the foot of the hospital.

The number of people working at the Hospital is almost 2/3 the entire population of the City of Jackson, Michigan

The number of people working at the Hospital is almost 2/3 the entire population of the City of Jackson, Michigan – the next station west of Ann Arbor on the railway. Practically all the employees

[14] University of Michigan Medical Center information site: http://www.uofmhealth.org/about%2Bumhs/about-people. Other information is available in the University of Michigan "2014 Human Capital Report": http://hr.umich.edu/humancapital/newsite/staffingtrends/index.html

of the Hospital come and go twice each day, unlike the residents of a city. This fact by itself, regardless the connectivity available there, would be reason enough to locate a station within walking distance. Even if only one tenth of Hospital employees elect to take the Detroit-Ann Arbor commuter train when it goes into service, that would be enough to free up about 2000 parking spaces and reduce road congestion by the same amount. The tragedy would be if the station were not located within walking distance, and only one or two percent took the train. The impact of commuter rail service in that case could be negligible.

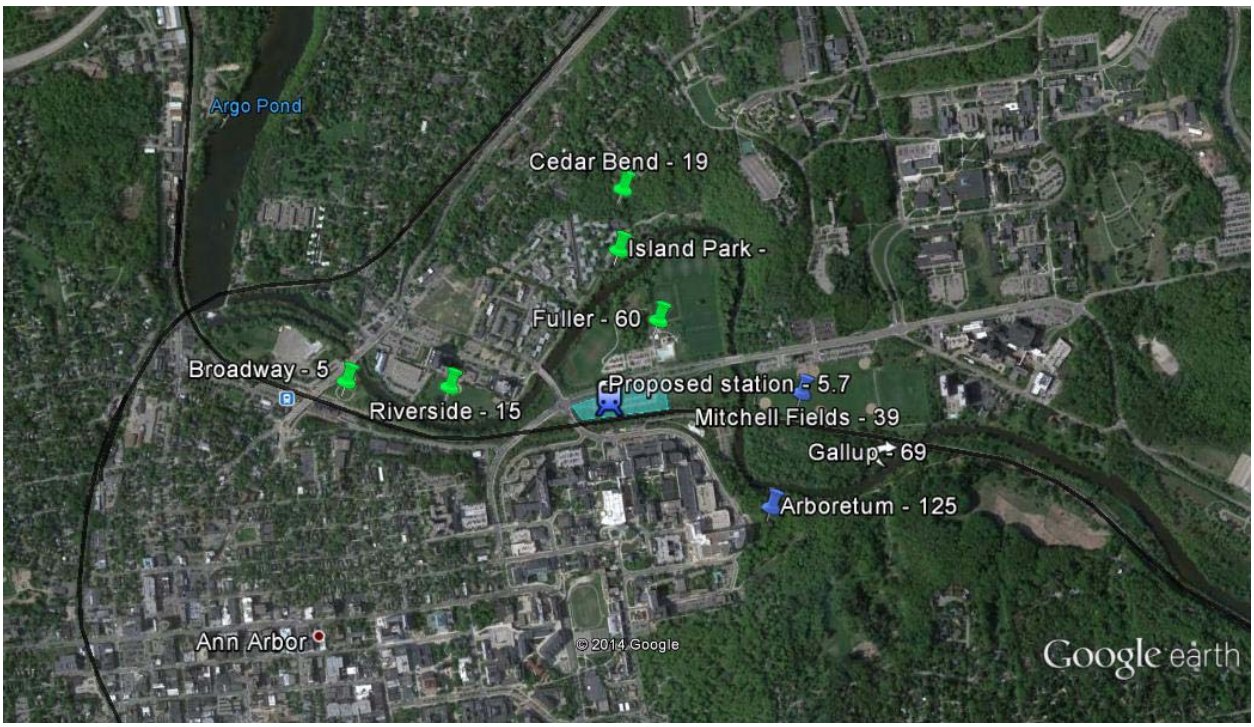
But It's a Park

Perhaps the biggest objection to siting the station by the Hospital is that the land was (at one time) designated parkland. Assuming it is still officially parkland (even though the designation was transferred to other land and it is currently a parking lot), we must answer four questions:

Question 1: Is it essential to have a park in this location? That is, would the area be deprived of recreational opportunities if this land were not a park?

Fortunately, the answer to this is No. The land in question (approximately 5.7 acres) is surrounded by parkland, recreational, and natural areas. The aerial map below shows the location of the Hospital, the proposed station, and the parklands within half a mile. Total area of parks within half a mile (both City and University) is 270 acres. Just beyond that range, at about 0.7 miles distance, is the tip of Gallup Park, which brings the total park, recreational, and natural areas less than a mile from the station to 339 acres. If the station is built by the Hospital, this would be reduced to 333 acres – that is, the station would reduce nearby parkland by 1.8%.

Parks within less than a mile of the proposed station.
(Blue pins = University of Michigan facilities; green pins = City of Ann Arbor facilities.)



Hospital Area Parks

Within 1/2 mile of proposed station

Park	Owner	Acres[15]
Fuller	City	60
Island	City	7
Riverside	City	15
Broadway	City	5
Cedar Bend	City	19
Mitchell Fields	U of M	39
Nichols Arboretum	U of M	125
		270
Within 3/4 of a mile		
Gallup	City	69
		339
Minus proposed station area:		-**6**
Parks remaining:		**333**
Percent taken:		**1.8%**

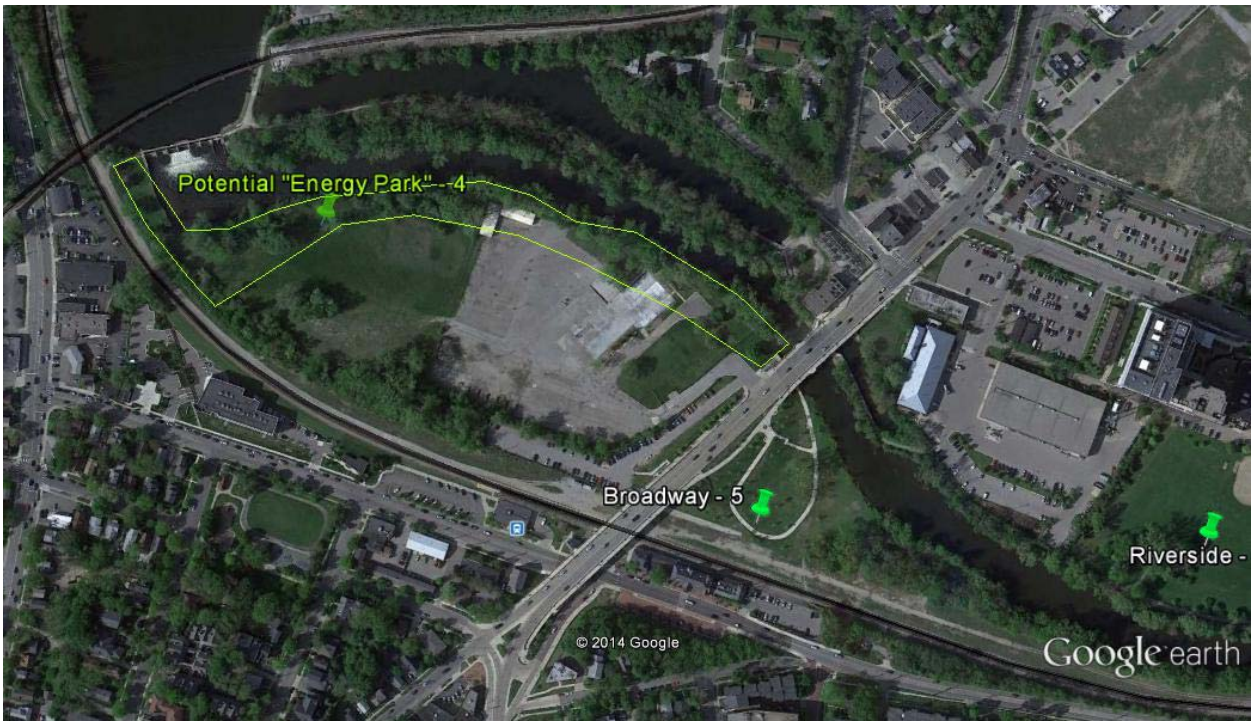
Question 2: Would the same land-area serve better as a park somewhere else?

One possible avenue of compromise would be to create a new park similar in size to the station area somewhere nearby. Fortunately, there is a parcel of land with great potential near the current Amtrak station. The site of an old coal gasification plant, now owned by DTE Energy, this site was contaminated but was recently remediated by DTE. Negotiations are in process with one or more developer(s) to build a mixed-use development there including a river-side park. This potential park could contain about 4 acres. Bounded on the north and east by the Huron River, it has an excellent view of Argo Dam and faces Riverside Park across the river. Most of the land is in a flood zone, so it would be undesirable or illegal to build on it – but would make an excellent park. If this were done, a station at the Hospital location would reduce nearby parkland by only about 2 acres, or 0.6%.

One further drawback of the Depot Street location: a close look at the map prepared by consultants titled, "Build Alternative 2 Depot Street (Existing Amtrak Station) shows that in order to accommodate the recommended capacity, it would be necessary to use 2-3 acres of land belonging to DTE Energy. If DTE Enjergy were to agree to this taking, it would reduce their buildable area, thus making it much less appealing to developers, and less likely that they could afford to include "Energy Park" in their plans.

(Map with sketch of a possible "Energy Park" next page)

[15] Size of City parks (except Island) was obtained from the City of Ann Arbor's Parks and Places listing at http://www.a2gov.org/government/communityservices/Parks-Recreation/parks-places/Pages/default.aspx University of Michigan Nichols Arboretum size is from http://www.lsa.umich.edu/mbg/about/history.asp; Mitchell Fields and Island Park were measured using Google Earth Pro.



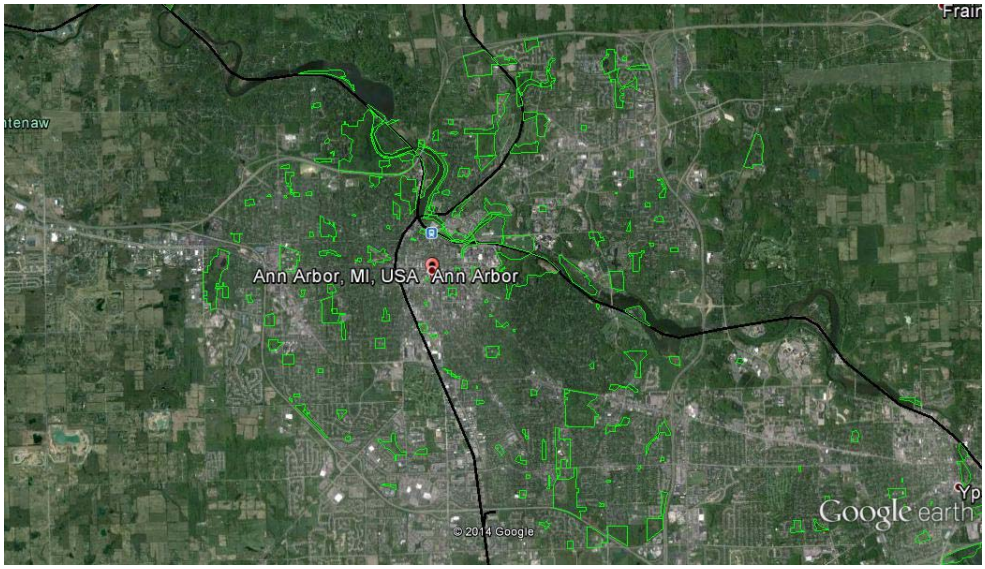
Possible "Energy Park" outlined in yellow.

Question 3: If no other parkland were designated to mitigate the loss by the Hospital, would the environmental impact of the loss outweigh the environmental impact of having the station in an inconvenient location?

Locating the station near the Hospital would eliminate emissions from thousands of commuter trips every year compared with the Depot St. location; how much would six acres of grassy park contribute to mitigating climate change?

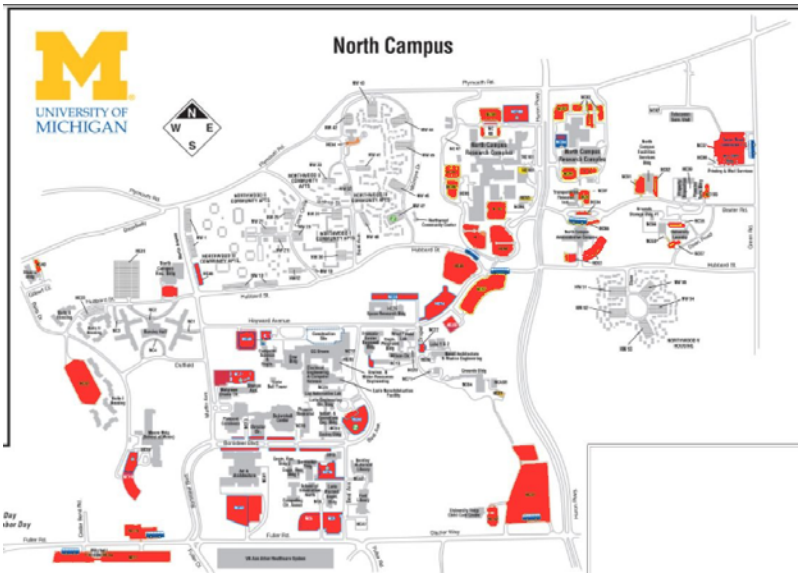
Question 4: Which is Ann Arbor's bigger environmental problem: lack of parkland, or too much parking land?

To answer that question, I offer three images. The first is Ann Arbor with its parks outlined in green:



The second and third are maps of University parking facilities (shown in red) on Medical and North Campus,

in order to show the amount of land devoted to parking there.



Clearly, we must take every step possible to reduce land used by parking facilities. It is to be hoped that, no matter where the new station is built, the amount of parking built on-site will not be excessive.

One more point about putting a station in a park. Stations are public buildings, and we have many examples of beautiful public buildings in parks. In perhaps the most famous urban park in our country – New York City's Grand Central Park – the Metropolitan Museum of Art occupies a prominent position

What About Transit-Oriented Development (TOD)?

TOD is development designed to take advantage of proximity to transit and, at the same time, make transit more attractive to residents, shoppers, and workers. By making transit more attractive, the

community benefits by having less traffic, less pollution, and more compact, manageable development; at the same time the developer and occupants of retail, office, and housing, profit from the higher value and convenience of property close to a transportation amenity.

This in turn sweetens the possibility of public-private partnership. If development is done at the station itself, the public benefits from having part of the cost born by the private developer, while the developer benefits from the high value of the property.

Turn TOD around and consider "Development-Oriented Transit"

But turn TOD around and you get "Development-Oriented Transit" – that is, transit where there is already major development. Rather than wait for developers to realize the value of transit, why not serve places where thousands of people already live or work? Clearly the Hospital, with its 20,000 employees, is ripe for "Development-Oriented Transit." There are also hundreds of apartments in the Maiden Lane complexes just on the other side of Fuller Road from the Hospital.

Other TOD can be developed nearby. One available location is a property at the corner of Broadway and Maiden Lane, formerly a grocery store and sometimes called Broadway Village or Lower Town (overlaid with purple in the map below). An attempt was made to develop this property in the mid-2000s, but when the recession of 2008 hit, the project had to be discontinued. It is located fairly close to both likely station locations. Measuring from the current Amtrak station at Broadway, the distance is 0.56 of a mile (yellow line on the map); measuring from the corner of Medical Center Drive and Fuller, it is 0.27 of a mile (pink line). Thus either location would be relatively convenient, but the hospital location is within about a quarter mile.

Potential TOD location (purple)
Distance from current Amtrak station (yellow line): 0.56 mile
Distance from Hospital station location (pink line): 0.27 mile

Conclusion

The Hospital location is more convenient for more commuters, kinder to the environment by eliminating thousands of tons of potential carbon emissions, and will benefit greatly from proximity to the Connector rapid transit line (being developed in parallel by a different team).

Taking parkland for the Hospital station (if it is, in fact, legally parkland) will not materially lower the potential for enjoyment of nature and recreation in the immediate vicinity, since it would occupy only 6 of 339 acres – just 1.8% – of park and natural land near the Hospital. And there is also potential to mitigate that loss with a nearby 4 acre site fronting the Huron River – a far more attractive location.

An intermodal station by the University Medical Campus has considerable advantages for ecological sustainability and for maximizing return on investment for the station and the proposed Connector, as well as the greatest effectiveness in promoting mode shift from personal vehicles to rail.

Immediately south of UMMC is the Life Sciences Center, part of the University of Michigan's Central Campus – another major employment center. (Photo: L. Krieg)