

Comments on "Towards 2045"

From TJF Brecht

I would like to offer the following comments on the document "Towards 2045".

- Page 4, while I may have an issue calling the federal funding a return on investment, my real question is the math. If 2 out of 10 dollars come from the local funding and 8 of 10 dollars come from federal funding, I think that would be a 400% "ROI" not 300%.
- I question the accuracy of the soils discussion on Page 11. Loamy and sandy soils aren't typically considered impervious. My understanding is that large sections of Midland, like at the Dow plant, have clay soils which would be impervious. My understanding is that the soil where I live is a residual sand dune from when Lake Huron was larger. I think this generally drains well except in the spring when the top melts above a frozen lower layer. Maybe I am missing something but I feel that something is missing here.
- Page 12 says that the new larger terminal was built in 2008. See the following link for an MDN article regarding a ribbon cutting in 2012. <https://www.ourmidland.com/news/article/MBS-300-guests-cut-the-ribbon-on-new-airport-6973611.php>
- Page 12 says that in the early 2000's the two removed sections were revitalized into the Pere Marquette Rail Trail. Page 13 says that the Trail was repurposed in the 1990's and extended an additional 8.25 miles in 2001. I think there may be an inconsistency in the timing.
- Page 15: "The 2017 population, household, and employment data was then reviewed with local units of government from December 2019 to March 2020 for accuracy. ... This data was then reviewed and approved by MATS Technical and Policy Committees in April 2015." If I read this correctly we approved the 2017 data and 2019 work in 2015. Maybe that should be 2020 or 2021 instead of 2015.
- On Page 16, can Exhibit 8 be cleaned up. I provide an example below

	2017	2025	2035	2045
Population	101324	102366	104544	106091
Growth rate	1.03%	2.13%	1.48%	N/A
Occupied Households	39960	40520	41479	42211
Growth rate	1.40%	2.40%	1.80%	N/A
Employment	49188	49613	50664	51508
Growth rate	0.86%	2.12%	1.67%	N/A

- In the table, I don't think the values labeled "growth rate" is really a growth rate. To me a rate would be a percentage increase per unit time such as per year. Instead the values are just the overall percent increase not a per year or per other fixed time frame.
- Page 18: "Extends from I-75 near Bay City to Ludington in **eastern** Michigan." Should that be "western"?
- Page 18: What is the eastern limit of M-20? I ask because I think that I have seen some maps with M-20 east of Midland.
- Page 19: "data **illustrates**" should be "data **illustrate**" and "work **then** commuting from" should be "work **than** commuting from"
- Page 23 says that the two rail lines are owned and operated by the Huron and Eastern Railway company. Page 12 says "Years later the last two segments were removed with the connection

between Midland and Saginaw remaining. This segment splits into two rail lines currently known as the Grand Trunk Railroad and the Chesapeake and Ohio Railroad.” Is there a contradiction here?

- Page 23 says that 67% of freight is moved by rail and 20% by trucks, leaving 13%. I am surprised that water doesn’t have a larger percentage by weight, especially given all of the lakes and locks. I thought that the state border went to the center of the lakes. Is it that the ports in Michigan just don’t do that much business?
- P 28 check math. "The total miles encompassing these categories is 76% leaving 34% as ..."
- P 36 Midland's NMT no longer exists.
- P36 "As previously mentioned MATS participated in 2 studies." "Some noticeable issues" I don't remember seeing the 2 studies being previously mentioned in this document. Did I miss something? I assume that the two studies are “Midland County Public Transportation Study” (P 39) and “Coordinated Mobility Plan, Michigan Prosperity Region 5” (P 40). Is that correct? I don’t think that I clearly see the issues listed.
- P 37 – On the table of segments for accidents and the table of intersections, shouldn’t “E Wackerly ...” be “W Wackerly”?
- P 37 – Lists “E Indian” from Gordon to Ashman. Isn’t it “W Indian” there? Maybe it would be best to leave E and W off.
- P 38 – I feel that the Emergency Management section should note that we had 2 dam failures in 2020 with no loss of human life. That says something about Midland’s Emergency Management.
- I feel that Exhibit 26 could use improvement. I realize that is copied from another source and not up to MATS to revise but it is lacking.
- P 39 says “Examining this data makes it clear that alternatives to personal vehicles for those unable to drive must be provided.” The section makes the comment that these can be addressed through planning. However, this is the planning document and I don’t see specific steps.
- Maybe the problem that I am having with the discussion on public transportation isn’t the specific items but the fact that it appears to be a little disconnected. I see it discussed on 36, 39, and 40-41. The discussion on P 39 and 40 is separated by the floods.
- P 38 – Should list of universities include Delta College which recently opened downtown?
- P 38 – Midland Community Bike Tours is no longer running.
- P 38 – Midland STEM elementary “opening” in 2017. Should that be “opened”?
- P 39 – “This rain amount overwhelmed the Tittabawassee River.” No! The bigger issue was that the rain event overwhelmed the Edenville Dam. The failure of the dam caused the Sanford Dam and the Tittabawassee River to be overwhelmed. The Tittabawassee was cresting before the dam failures. The dam failures caused the river to rise a little over another 4 feet. That addition which may not seem like much added substantially to the flooding because much of the impacted area is flat.
- I have a problem with implying that the rain caused a “500 year flood”. I can sort of agree with the statement that it was a “500 year flood” - category event” with the understanding that it got to this category due to the dam failures and the dam failures are not included in the statistical modeling determining the flooding frequency. This takes me to another concept. What model is used to determine flooding frequency. Most people doing statistical analysis use a Gaussian distribution. However weather patterns do not necessarily follow Gaussian distributions. Flood frequencies follow a bimodal distribution. Therefore if a Gaussian distribution is used, the a less frequent flooding event would be predicted. Of course, the distribution model not relevant to our current discussion.
- P 40 – “As the tables on pages 34 and 37 show, over \$3,000,000 in a combination of Federal and local emergency funding was expended after the two flooding events on road and bridge restoration and other associated costs.” I can see that the table on Page 34 shows emergency spending after the

2020 flood. I don't see where it shows spending after the 2017 flood. Also, the tables on P 37 don't appear to deal with spending.

- P 40 – “Flooding, especially as a result of intense precipitation, is the predominant cause of weather-related disruption to the transport sector.” Maybe eliminate “especially as a result of intense precipitation” or add “especially as a result of intense precipitation combined with inadequate maintenance of infrastructure”.
- P 41 – Formatting: The section “Momentum Midland ...” is indented as if it is a subset of “Coordinated Mobility Plan”. I think that the indentation should be removed so that it represents a topic at the same level as “Transit Coordination and Personal Mobility Studies”
- P 41 – Is the bike share system still in operation? I thought that I read something that it may have been pulled pending changes.
- P 41 – “This is related to the West Entranceway project mentioned above, implemented by Momentum Midland.” Should that be “proposed” instead of “implemented”. First, I think that this is referring to the Ashman and Rodd one-ways. As such this has not been implemented. Also, is this something that Momentum Midland would implement or is it implemented by the city.
- P 42 – “... is built and ran through” – Should that be “run”?
- P 43 – Referring to Exh 28 “We now have 4 segments predicted to operate at over 75% capacity utilization.” I see 2 segments. Could you point out the segments?
- Am I correct in reading the exhibits that the traffic for Jefferson north of Wackerly is worse with the build scenarios than with the no-build scenarios.
- Page 44 mentions a second left turn lane from Jefferson to Joe Mann. However, another issue is the right turn from Joe Mann to Jefferson which has long backups at times. Also, let's keep an eye on NMT with these changes.
- Exhibit 32 is wrong. I think that the first 10 items in the 2035 to 2045 column are overall totals instead of 10 year totals. But I am not sure if this is the only error.
- Exhibits 39 and 40 confuse me. I would like to offer the following:
 - Define “EJ Census Blocks”
 - On Exhibit 40 the 2.54% for Indian... should be 25.4%
 - On Exhibit 39, some of the values calculated in the fifth column are inconsistent with the other data in the column and confuse the comparisons. I recommend removing the 33.01%, the 26.55% and the 27.9% from the fifth column and replacing with N/A.
 - For Exhibit 39, Column 5, I recommend the heading: “Racial or Economic Distribution within Impacted Areas (%)”
 - For Exhibit 40, I recommend that the heading on the fourth column be changed to “Percent of Each Minority Group Impacted”
 - In the last line of Exhibit 40, the comparison has changed from the type being done in the previous part of the table to that of Exhibit 39. This is confusing and duplicates information. I think that the proper data for economic comparison of Exhibit 40 should be:

Total households	40302	11,236	27.9%
Households below poverty level	3997	1318	33.0%

- For Paragraph 2 on Page 69, I recommend:

Exhibits 39 and 40 (above) describe the MATS area's minority demographics and low-income households. Exhibit 39 provides the racial distribution within the impacted areas. To calculate each percentage, the actual number of each minority group inside the impact zone was divided by the total population of the impact area. To see how the demographic makeup corresponds, compare the percentages of impact regions in each column to the overall MATS data. According to the data, no groups are disproportionately overlooked or overexposed when it comes to proposed transportation projects.

- After Paragraph 3 Page 69, I would like to offer:

Exhibit 40 compares the impact on various groups within the MATS area. Based on census blocks, 27% of the total population is impacted. The impact on minority groups, per census blocks, varies from 9 to 25%. Regarding economic impact, 33% of census tracts with low income households are impacted compared to 28% of total households.

- P 76-77 - Are the dates for the public hearing on March 1, 2022 and the public comment period from Dec. 15, 2021 to Feb. 16, 2021 still correct?
- P 79 – I am used to the Executive Summary being at the front of the document not at the end.