



memorandum

Date: January 13, 2022

To: George Tsakoff, PE; Nicholas Bailey, PE

cc: John Katers, PE

From: Stephen Dearing, PE, PTOE

Re: The Downs Site Development
Commentary on Dan Burden's Walkability and City Mobility Suggestions

We have reviewed the matrix which summarized the various suggestions and recommendation from Dan Burden, Blue Zones LLC for the redesign of the Northville Downs site (The Downs development). We find that the proposed development site plan already encompasses many of the concepts Mr. Burden is promoting. However, we offer the following opinions regarding some of his ideas.

Speed limits

There seems to be some confusion regarding the difference between operating speeds and speed limits. We agree with Dan Burden that operating speeds in the range of 15-20 mph is desirable. However, operating speeds should be construed to be the normal or prevailing speed of traffic. That is not the same as a speed limit. In Michigan, Act 300 of P.A. 1949 (amended), also known as the Michigan Vehicle Code (MVC), precludes the posting of any public road at a speed limit less than 25 mph. An excerpt of this law is provided as an attachment.

Regarding changing the speed limit on S. Center St south of Cady from 35 to 25 mph, this segment does not meet the legal definition of a business district. As such, Sect. 257.627 of MVC provides that a speed limit must either be based on the number of vehicle access points within the segment or based on the 85th percentile speed of free-flowing traffic. As such, an engineering study would be required to justify any changes.

Regarding the proposed alleys, as we assume that they are private, they are not eligible for a public posted speed limit. If the owners of the alleys were to post them, such a speed posting would not be eligible for enforcement by the police. If the alleys are public (which we assume is not desirable to City), we note that the MVC is silent about appropriate speed limits. It may be construed that they would be treated as other public roads and subject to the same restrictions noted above for a minimum 25 mph posting. The City Attorney should advise on this issue.

Road Right of Way (ROW)

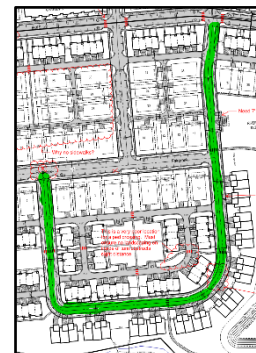
We are relatively sanguine regarding ROW widths, so long as the proposed width can accommodate public interests in these corridors of land. That includes proposed overhead and underground utilities (electric, gas, water, sanitary sewer, storm sewer, telecom, cable TV, fiber optic lines, etc.) and their above ground manifestations (junction boxes, fire hydrants, utility poles, etc.), clear pedestrian paths meeting ADA requirements, and vehicle needs of travel and parking lanes. For most communities in Southeast Michigan, 60' wide ROW for local roads is considered the norm for a local street with only two travel lanes, one in each direction. OHM recommends that streets be configured with a minimum 60' ROW.



Regarding these considerations, the Dan Burden recommendation for 90-degree parking on Cady St and Beal St calls into question if the existing 50' ROW on Cady or planned 60' ROW on Beal is adequate. By our calculations, at least 70' minimum is required, or 80' if dedicated on-street bike lanes are desired. The topic of angle parking will be further discussed below.

Public versus Private Streets

Strictly speaking, this is not an issue that Dan Burden commented upon. We provide this discussion as a follow-up to that of ROW. It appears that Fairbrook, Hutton, and Griswold will be extended as public streets and the balance of the streets and all alleys will be private. But this leaves the public street network a bit disjointed and point up enforcement issues for right of way controls (STOP / YIELD) and speed limits on private streets. OHM recommends that one additional street be considered public jurisdiction, as shown in the adjacent sketch highlighted in green:



Sidewalk Width

Burden has the generic recommendation for 5' widths for residential frontage or 8' for commercial. The development plan conforms to these widths for residential frontages but show widths from 10' to 25' for commercial. To that we would recommend that the minimum width should also depend on if the sidewalk is immediately back of curb or if there is a green belt separation. If the walk is back of curb, then the minimum width should be 7'. The added width would be needed for a variety of reasons: vehicle bumper overhang for angle parking, door swing for parallel parking, a place for snow plowing windrows leaving enough room for the walk, utilities, etc.

Lane width

The current development plan is showing lane widths for streets varying from 11.5' to 14', with the latter being for the extension of an already wide Griswold St. Burden is recommending 10' regardless of on-street parking being provided or not. OHM recommends a minimum of 11' travel lanes along segments with parallel parking to account for door swing. For the proposed local roads without on-street parking and sparse driveway access, 10' travel lanes are acceptable. We concur with the development plans for a standard alley width of 22', as there will not be any sidewalk provided along the alleys and many segments will involve rather numerous driveways with scant spacing between them.

On-street Parking

Where proposed, on-street parking is shown as parallel style based on a parking stall width of 8.5'. This is acceptable. Burden is recommending that most all of this be shifted to 90-degree angle parking. We do not concur. This would require additional land be set aside for ROW. Even for low-speed roadways, 90-degree head-in parking is inhospitable to bicyclists, whether sharing the vehicle travel lane or using dedicated bike lanes. If for some reason it is desired to increase the amount of on-street parking beyond what parallel parking provides, then we recommend 60-degree back-in parking with 12' travel lanes.

On-street Bike Lanes

The proposed development is not showing any dedicated on-street bike lanes. Rather the idea is for bicyclists to share the road within the regular travel lanes. The City's Non-Motorized Plan (2014) notes that Cady St, Griswold St, a one-block portion of Beal St, and River St are Priority 2 planned non-motorized routes. Moreover, the Plan (Figure 12) indicates that Cady is to utilize sidewalks and lane sharing, while Griswold, Beal and River are to have on-street bike lanes. If on-street bike lanes are to be required, OHM recommends the following geometrics apply: For streets without on-street parking, use 10' travel lanes and 4.5' bike lanes (measured to face of curb). For streets with on-street parking, use 10' travel lanes, 6' bike lanes, 8.5' parking lanes (measured to face of curb).



Bump Outs (Curb Extensions)

So far as we can tell, the proposed plan provides bump outs in all instances where parallel on-street parking is being provided. However, the ADA ramps need to be adjusted to be placed at the location that minimizes pedestrian crossing distances and allow for desired landscaping. We note that Section 257.674 of the MVC requires that parking be prohibited within 20' of a pedestrian crosswalk, so this needs to be taken into consideration in the redesign of the bump outs.

Streetscaping Elements (Trees, Vegetation, Lighting)

We commend the efforts to add streetscaping elements to the development. However, we caution that the placement of the elements should not compromise other key considerations. For example, placing trees in grates should not constrict sidewalks to less than 5' wide, preserving ADA requirements.

Mid-block Pedestrian Crossings

Burden is recommending that mid-block crossing be provided every 150' regardless of the block spacing or area context. We are not aware of the basis for selecting this 150' dimension, or what latitude should be giving for varying from this stricture. We do not agree with a single, strict rule and believe that the spacing of mid-block crossings should be flexible to accommodate the various competing interests.

We have provided the following table to compare the current state of the development plans for crossings, what Burden's recommendations would translate to, and our recommendations. Please note that the numbers shown are in addition to the crossings that would occur at the recognized street intersections within the development.

<u>Street</u>	<u>Block</u>	<u>The Downs</u>	<u>Burden</u>	<u>OHM Advisors</u>
Cady	Center to Hutton	1	3	1
	Hutton to Church	0	1	0
	Church to Griswold	0	2	1
Beal	Center to Hutton	0	3	1
	Hutton to Pvt Street opposite vacated Church St	0	1	0
	Pvt St (Church St vacated) to Griswold	0	1	0
Fairbrook	Center to Pvt Street east loop*	0	1	1
	Pvt Street east loop to Hutton	0	1	0
	Hutton to Pvt Street west loop (Church St vacated)	0	1	0
Hutton	Cady to Beal	0	3	1
	Beal to Fairbrook	0	2	1
Griswold	Cady to Beal	0	3	0**
Pvt Street	Beal to Fairbrook	0	2	1
	Fairbrook to Fairbrook (loop)	3	7	3

Notes * - Crossing needed at new intersection of Fairbrook and Pvt Street east loop, not mid-block.

** - No pedestrian facilities on east side of Griswold, so no need for crossing.

Speed Table Crossings

The final point to address is the use of speed tables for pedestrian crossings. Recognizing the difficulties in designing, building, and maintaining these types of traffic calming features, we generally concur that they would be valuable. If not provided for every crossing, then priority should be given to crossings at intersections, taking the form of raised intersections.



Extension of Griswold St to 7 Mile Rd/ Hines Dr

One of the keynote recommendations from Dan Burden, is to re-layout the internal streets in The Downs development such that Griswold St would be extended south of Beal St, run alongside the new open space and daylighted river and cross Johnson Creek to form a north connection to the 7 Mile Rd at Hines Dr. intersection. The City Mobility Focus Group echoed a similar concept of connecting the subdivision at 7 Mile Rd and Hines. We understand the basis of this recommendation, given the general goal of providing a grid network pattern for the street system. However, we note that Griswold north of Main St is functioning as a minor arterial and Hines Dr to the south is a principal arterial. Making this connection creates the risk of Griswold operating at a far more intense level than what is desired.

It then comes down to a question of the rationale for making the connection to 7 Mile Rd. If the purpose is the broad goal of redundancy in the **major road network** for Northville, then crossing Johnson Creek and connecting opposite Hines Dr is appropriate. The extension of Griswold should then assume the geometric characteristics of a major road to handle higher volumes, even if traffic calming measures are desired to mitigate speeds. If, however, the goal is adequacy of access from The Downs out to the roadway network, then crossing Johnson Creek and accessing 7 Mile is not needed. The other proposed connections to the existing network are fully adequate.

Needed Improvements for 7 Mile Rd at Sheldon Rd/Center St

Much has already been evaluated and discussed regarding this key intersection. We anticipate that the new TIS for the proposed development will again note that there are pre-existing capacity and safety problems with this location, that will just be further exacerbated with the construction of the development. A key failing is not having adequate NB left turn storage due to the narrow bridge that carries Sheldon Rd over Johnson Creek. This precludes being able to provide left turn signal phasing to address this heavy movement.

One option is to retain the intersection control being a traffic signal and address the lack of turn lane storage. As the existing bridge is an arch-span design, widening it will be difficult. So, a complete replacement of the bridge should be anticipated. While the update for the TIS has not yet been finalized, the preliminary draft suggests that about 500' of left turn storage is needed to handle existing and development traffic. This represents an additional 340' of widening on Sheldon south of the replacement bridge, of which about 75 – 90' will be through wetlands and floodplain. Once achieved, it is anticipated that the overall Level Of Service (LOS) would be 'C' for the a.m. and p.m. peak periods, with certain individual movements seeing LOS D.

The alternative is for a roundabout, the center of which would be shifted to the north of the centerline of 7 Mile Rd to avoid impacts to the bridge, Johnson Creek and associated wetlands and floodplain. The concept level design identified back in 2018 had an inscribed circle diameter of about 130'. The anticipated overall LOS was 'A' for both a.m. and p.m., but this was based on the TIS of the anticipated development plan dating back to 2018. This option does not require the widening of the Sheldon bridge over Johnson Creek.

OHM recommends that The Downs development be required to ensure that buildings proposed for their development are adequately set back from the ROW that would be needed to construct a roundabout for 7 Mile Rd at Sheldon Rd / Center St. As it stands, it appears that the proposed townhouse units east of Center St are acceptable. On the west side of Center St, the single southern-most unit facing of a proposed 4 plex, is in question. Whether this unit may need to be eliminated will require a better understanding of how the concept design for a roundabout fit into the dimensioning of the development site.