

U.S. 41/M-28 Corridor

Climate and Health Adaptation Vision

Marquette Charter Township, Michigan
Marquette Area Climate and Health Adaptation Action Project
June 2020
Michigan State University



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*All photos, unless otherwise noted, are courtesy of the MSU SPDC

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Michigan State University School of Planning, Design and Construction

Michigan State University Extension

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Local Partners

Marquette Charter Township, Marquette Charter Township Climate and Health Task Force, Marquette County, including the Marquette County Health Department, the Marquette County Climate Adaptation Task Force (CATF), Superior Watershed Partnership and numerous community stakeholder groups were essential partners in making this project possible.

Special Thanks

The MSU Project Team would like to express their gratitude to the various stakeholders who attended the community stakeholder meetings, Community Visioning Meeting, Preliminary Design Meeting and/or provided feedback during this process to make this project possible.





Introduction

Introduction

The Marquette Area Climate & Health Adaptation Action (MACH A²) Grant is a pilot grant project designed to assist Marquette County communities address health-related climate concerns. It offers a graphic visioning process that provides communities with a set of images and recommendations to guide adaptation improvements in their area that address climate and health. The MACH A² Grant builds on more than a decade of success of the Sustainable Built Environment Initiative (SBEI) offered through Michigan State University (MSU) and provides a source directly to Marquette County communities for physical design assistance in climate and health adaptation.

The Michigan Department of Health and Human Services (MDHHS) Michigan Climate and Health Adaptation Program (MICHAP), MSU Extension (MSUE) and the MSU School of Planning, Design and Construction (SPDC) have partnered since 2017 to advance climate and health adaptation in Marquette County. The partnership allows for an integrated approach to solving complex county-wide climate and health problems through the diverse expertise found within MICHAP and SPDC, including Public Health, Construction Management, Interior Design, Landscape Architecture and Urban & Regional Planning, along with MSUE's institutes and Extension educators.

MACH A² Grant Objectives:

- Work with communities to develop adaptation planning and design ideas for local climate and health issues and opportunities;
- Build consensus and generate ideas to address challenging climate and health concerns for specific areas;
- Act as a bridge between communities and consulting planning and design professionals; and
- Provide in-community student learning, and serve as a creative and scholarly outreach and engagement work endeavor involving campus faculty and field Extension educators.

Please note: The design recommendations in this report are intended to be conceptual and visionary. As a tool for consensus building, this report does not include an environmental, technical or market feasibility analysis or cost estimates necessary for final design recommendations.

Background

Marquette Area Climate and Health Adaptation Project

The MACH A² Grant introduces the fourth year (2017-2020) of the ongoing Marquette Area Climate and Health Adaptation Project (MACHAP). MACHAP is a pilot project to build adaptive capacity at the local level. It aims to integrate public health considerations into community and climate adaptation planning initiatives. Located in Marquette County, Michigan, the project uses visual design and policy recommendations to address adaptation needs. Stakeholder education and engagement are approached through a health and equity lens. The collaborative process provides experts and the public an opportunity to establish their vision of a climate adapted community.

MACHAP is part of the Michigan Climate and Health Adaptation Program's (MICHAP) state-wide climate and health adaptation initiative. The project depends on the existing capacity, knowledge, and networks of local groups including the Marquette County Health Department, the Marquette Climate Adaptation Task Force (CATF), and the Superior Watershed Partnership.

Through interviews, stakeholder meetings, community engagement workshops and seminars MACHAP has been continually rooted in public input and the community's vision. These sessions identified the area's priority climate and health concerns, informed the community about the impacts of climate on health, and explored potential adaptation responses. Specifically, the process involved a series of focus groups followed by three community workshops. These meetings informed the final product, a three-volume Marquette Area Climate and Health Guidebook (<https://www.canr.msu.edu/climatehealthguide>) focused on addressing Marquette's priority climate and health concerns – vector awareness, air quality, emergency response/extreme events, and water related concerns.



2017: Marquette County stakeholder groups met the MSU project team for small group discussions about how climate change affects lives and potential solutions. The meetings informed the priority climate and health concerns of the community.



2018: Community members met to discuss their vision for climate adaptation in the area. They provided comments on adaptation design ideas for the area.



2019: Marquette County stakeholders determined action steps to implement Marquette County's climate and health adaptation priority goals.

Marquette Area Priority Climate and Health Concerns

Marquette County’s priority climate and health concerns – vector awareness, air quality, emergency response/extreme events, and water related issues – were identified through the MACHAP process. The figures below explain these concerns and show how climate drivers create exposure pathways which result in negative health outcomes. Addressing these climate and health concerns at a local level is an underlying goal of the U.S. 41/M-28 Corridor Climate and Health Adaptation Vision Project.

Vector Awareness

Issues relating to the increased prevalence of vectors (specifically ticks) and vector-borne diseases throughout Marquette County due to a changing climate.

Climate Drivers	Exposure Pathways	Health Outcomes
<ul style="list-style-type: none"> • Increased Temperatures • Changing Seasonal Patterns 	<ul style="list-style-type: none"> • Increased Tick Population 	<ul style="list-style-type: none"> • Lyme Disease

Air Quality

Issues relating to increased threats to air quality from carbon pollution, wildfire, particulate matter pollutants, and other airborne health risks.

Climate Drivers	Exposure Pathways	Health Outcomes
<ul style="list-style-type: none"> • Increased Temperatures • Drought Conditions • Longer Growing Seasons 	<ul style="list-style-type: none"> • Intensified Wildfires • Poor Air Quality • Road Closures • Prolonged Pollen Production 	<ul style="list-style-type: none"> • Respiratory Illnesses • Mental Health Consequences and Stress

Emergency Response/Extreme Events

Concerns over accessibility, energy grid stability, transport networks, and other challenges likely to arise from more frequent intense weather events in Marquette County.

Climate Drivers	Exposure Pathways	Health Outcomes
<ul style="list-style-type: none"> • Increasing Extreme Precipitation • Extreme Cold • Drier Conditions 	<ul style="list-style-type: none"> • Increased Storm Surge • Flooding • Shoreline Erosion • Road Closures • Frozen Pipes • Mold • Wildfires 	<ul style="list-style-type: none"> • Cold Illness • Injury • Respiratory Illness • Mental Health Consequences and Stress

Water Related

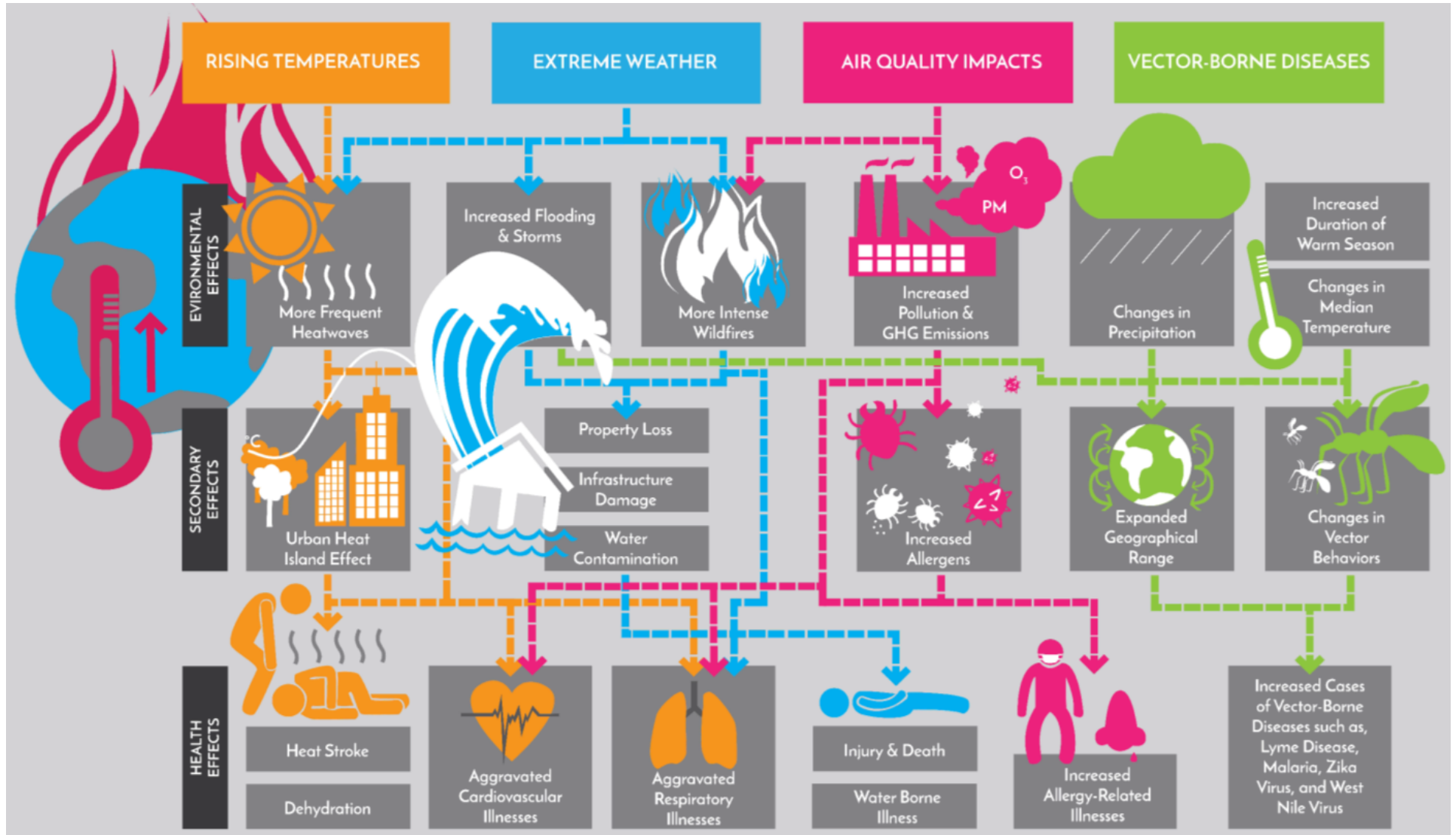
Issues relating to challenges brought by more frequent intense precipitation events, more frequent periods of drought, and overall community changes brought by flooding, aquifer depletion, and other water issues.

Climate Drivers	Exposure Pathways	Health Outcomes
<ul style="list-style-type: none"> • Increased Precipitation • Drought Conditions 	<ul style="list-style-type: none"> • Flooding • Intensified Wildfires • Road Closures • Mold • Contaminated Wells 	<ul style="list-style-type: none"> • Waterborne Diseases • Respiratory Illness • Mental Health Consequences and Stress

Climate and Health Primer

Climate change can affect public health in numerous ways. With changing temperature and precipitation patterns also come changes to extreme weather such as increases in heavy precipitation events and higher temperatures. Combined, they can lead directly to several negative health impacts including injury, waterborne diseases and heat related illnesses. Indirectly, health can be impacted by increases in drought, flooding, wildfires, expansion of vector borne disease habitats and more, as shown below.

How Climate Change Affects Your Health



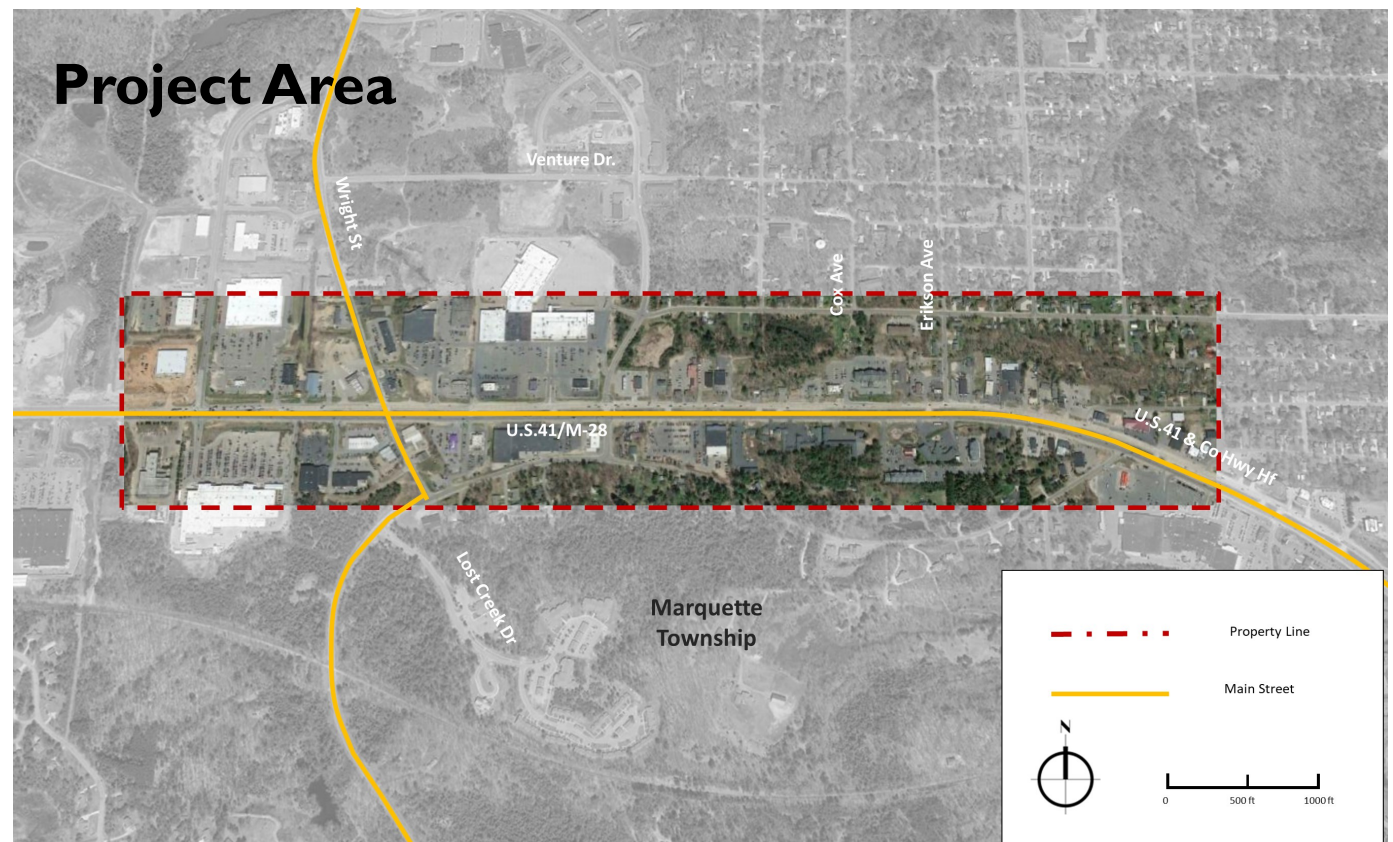
Source: American Public Health Association. <https://www.apha.org/news-and-media/multimedia/infographics/how-climate-change-affects-your-health>

Project Overview

Marquette Charter Township was selected for the MACH A² Grant Project to develop a climate and health adaptation vision for the U.S. 41/M-28 Corridor. The goal of the project was to enhance the U.S. 41/M-28 Corridor by creating and sustaining an inviting space for all residents and visitors of Marquette Charter Township to utilize. Another goal of the project is to develop a vision for climate and health adaptation along the corridor, including stormwater management and aesthetics.

The project area was specifically the currently developed area of the 2.7 miles of U.S. 41/M-28 Corridor in Marquette Charter Township. Seven sites were selected for applying community goals. These sites were selected based on their identification in community conversations and their potential for meeting community goals through creative reuse.

Ultimately, the community feedback focuses on four themes with which to move forward: Connectivity, Aesthetics, Revitalization, and Placemaking. With a thorough and collaborative process, the MSU team worked with the Marquette Charter Township community to address these objectives and formulate an action plan of realistic solutions to achieve a more climate and health adapted built environment.

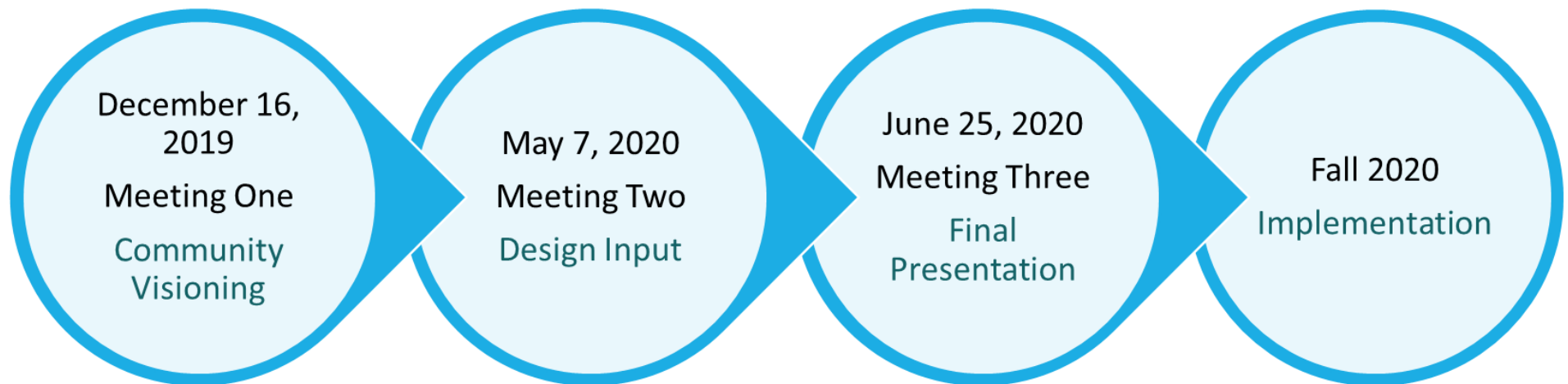


Project focus areas within Marquette Charter Township

Process

Visioning Session, Design Input, Final Plan Presentation, Implementation

To achieve a plan for the U.S. 41/M-28 Corridor accurately representing the interests of the community, a three-meeting input process was adopted. On December 16, 2019 the first meeting was held as a preliminary opportunity for the residents of the Marquette Charter Township to discuss what the future of the corridor should become, and how that vision can incorporate climate and health. With the input of local representatives, the meeting acted as a forum for community leaders and citizens to make suggestions concerning safety, function and aesthetics. The second meeting was held virtually on May 7, 2020. Its primary purpose was to present preliminary recommendations and designs for the area, and to begin gathering community feedback. At the third and final meeting, held virtually on June 25, 2020, the final design images and planning recommendations were presented to the public.



Inventory & Analysis

Existing Site Conditions

The project focuses on the U.S. 41/M-28 Corridor between County Road HQ and Brookton Road, including the adjacent developed area. Key considerations included climate and health concerns for the area; vulnerable populations of the community; stormwater management and water quality; creation of places for community activities; access to the corridor; improved walkability and pedestrian safety; current land use patterns and elements; potential future uses and redevelopment; re-thinking of key spaces; current and future visual character; and overall beautification.

The area has a number of strengths, including a variety of businesses, high traffic exposure, strong community interest, access to nearby outdoor recreation including trail access, and connectivity to the larger Marquette Charter Township and Marquette County community. These assets make the U.S. 41/M-28 Corridor an attractive destination for residents and visitors alike.



U.S. 41/M-28 Corridor between County Road HQ and Brookton Road

Existing Conditions Images



Newly constructed underpass below the corridor



Recently installed roundabout at Co Rd HQ and U.S. 41/M-28



Graded shoulder used by pedestrians and bikers along corridor



Corridor median



Community Input

Community Input

Meeting One: Community Visioning

Community members of the Marquette Township area gathered on December 16, 2019 at Marquette Township Hall to develop a climate and health vision for the U.S. 41/M-28 Corridor. MSU faculty and MSUE educators presented an overview of the SBEI process and a map of the project site. Marquette County Health Department staff discussed the relationship between climate and health, and the priority climate and health concerns previously identified for Marquette County.

Participants used sticky notes, maps and worksheets to provide input. First participants were asked to use sticky notes to describe in one word or phrase the corridor now versus in the future. Then on worksheets, three questions prompted group discussion:

- 1) What are you proud of about the project focus area?
- 2) What are you sorry about for the project focus area? Think in terms of climate, health, and vulnerable populations. Consider vectors, extreme events, air quality, and water concerns.
- 3) What would you like to see as you float over the project focus area in a hot air balloon 15 years from now? How can this vision incorporate climate and health concerns? Vulnerable populations?

Participants expressed being proud of the recent improvements including pedestrian and biker safety improvements such as the roundabout and underpass, businesses, traffic controls, engagement, and proactive cooperation. They regretted overall pedestrian safety, traffic circulation and safety, median maintenance, a lack of planning, aesthetics, vacancy, lighting, funding, and stormwater management. Hope was expressed for future green infrastructure, safe pathways, greenery, renewable energy, sustainable businesses, increased accessibility, mass transit, and improved lighting, speed controls, and traffic flow.

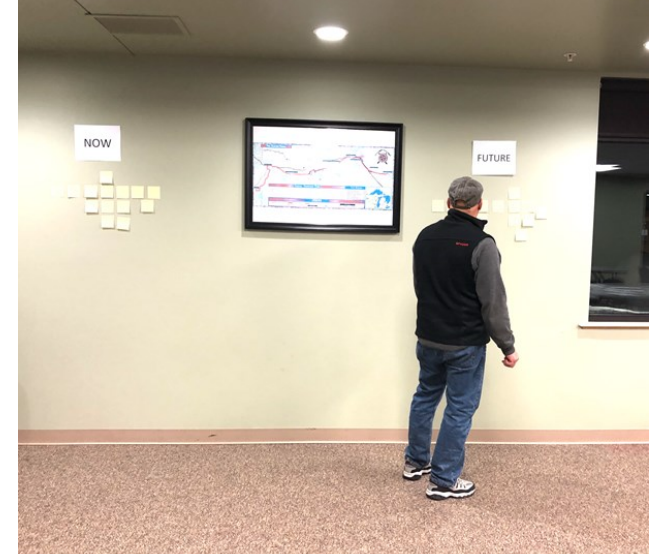
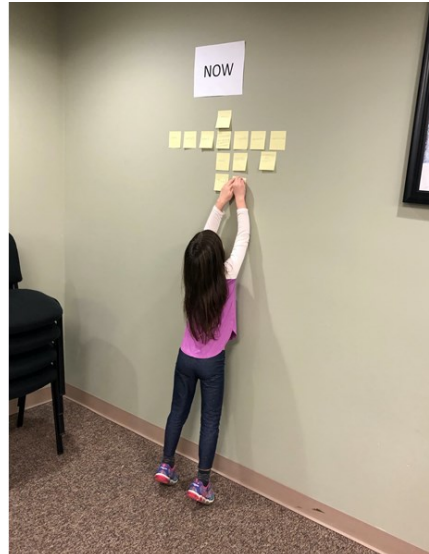


Visioning Input Summary

Upon arrival, participants used sticky notes to respond to the following prompt:

- Please write a one-word description of the U.S. Hwy 41/M-28 Corridor as it is now, and one as you want to see it in the future, and post it on the wall.

The figures show word clouds of the most prominent responses to prompt. Word clouds show the frequency of responses by size, with larger font sizes indicating a greater frequency. See Appendix A: Meeting One Visioning Input for specific frequencies.



Participants respond to question prompts through posting sticky notes on the wall.

U.S. Hwy 41/M-28 Corridor as participants see it **now**



U.S. Hwy 41/M-28 Corridor as participants want to see it in the **future**



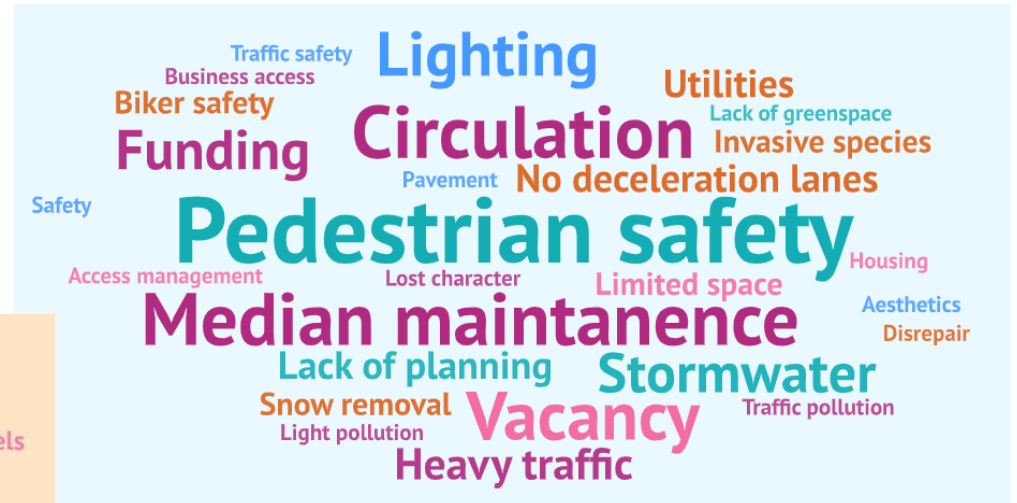
Visioning Input Summary Continued

Next, participants used worksheets and small group discussion to respond to three question prompts. The figures below show word clouds of the most prominent responses to Visioning Input feedback prompts. Word clouds show the frequency of responses by size, with larger font sizes indicating a greater frequency. See Appendix A: Meeting One Visioning Input for specific frequencies.

“What are you proud of about the project focus area?”



“What are you sorry about for the project focus area? Think in terms of climate, health, and vulnerable populations. Consider vectors, extreme events, air quality, and water concerns.”



“What would you like to see as you float over the project focus area in a hot air balloon 15 years from now? How can this vision incorporate climate and health concerns? Vulnerable populations?”



Community Input

Meeting Two: Design Input

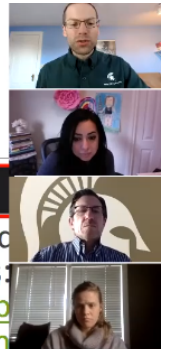
On May 7, 2020, MSU hosted a second community meeting followed by a steering committee meeting, both held virtually over Zoom due to pandemic-related stay-at-home orders. The MSU team presented before and after design renderings and character images depicting design and adaptation examples of other communities. Using Zoom chat, online surveys, and Google Slides of design and character images, attendees responded to three feedback prompts:

- What do you like about the designs presented today?
- What do you dislike about the designs presented today?
- What improvements/additions would you like to see regarding the designs presented today?

Participants voiced support for increased walk/bike-ability, trees and greenery, improved amenities, buried utilities, and participation by MDOT. Concerns were expressed about vegetation and bike lane upkeep, winter maintenance, the demand for pedestrian/bike access, and funding for improvements. Suggested improvements centered around welcome signage, materials for the bike lane, low-cost lighting options, US-41 crossings, access management, low-maintenance and resilient vegetation, and mixed use development. More details on Meeting Two can be found in Appendix B.

Let us know your thoughts!

1. Please use the Zoom chat function for questions.
2. Provide your comments regarding specific designs and character images in the notes section of Google Slides: <https://docs.google.com/presentation/d/1cvQtJnS4Jp8-vTzu0JAYH7J9iAlNnDbMRvRKUoRw/edit?usp=sharing>
 - **Note:** Please be specific! Beyond “like” and “dislike”.
3. Complete the brief Meeting Two feedback form: https://msu.co1.qualtrics.com/jfe/form/SV_0eyeqIcms4WCmeV



Design Feedback Summary

What do you like about the designs presented today?

- Increased walkability on US41 - increases safety and decreases fossil fuel use
- Increased bikeability
- Trees, greenery, and green space
- Amenities
- MDOT cooperation
- Aesthetic improvements
- Powerful educational tools
- Nostalgia
- Limited power lines
- Non-motorized friendly
- Good ideas to help with erosion, invasive species mitigation, stormwater runoff, climate change adaptation

Was there anything about the designs presented today that concerns you?

- Maintenance of grass, vegetation, the colored bike lane, etc
- Winter maintenance: It's important to have space for the snow banks and salt/sand could be problematic for the rain gardens in the median and in the ROW
- MDOT requirements aren't met
- Unrealistic for the setting
- The nearby trails are better for biking
- Climate change and water quality are not a concern, extreme cold is and isn't addressed
- Cost

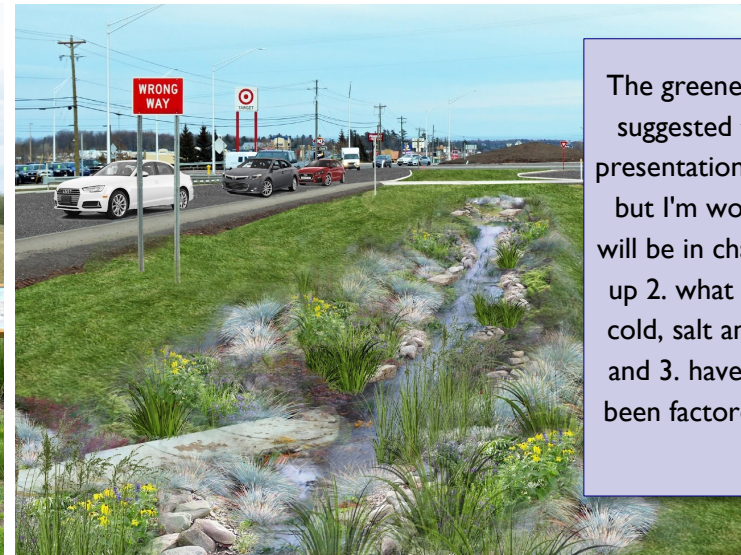
What improvements or additions would you like to see regarding the designs presented today?

- Asphalt or concrete pavement for the bike lane
- Low cost lighting options
- Crosswalks at the east end
- Safe business access management
- Corridor entrance feature: A clock, monument, welcome sign
- Buried utilities
- Meet MDOT requirements
- Vegetation only at select areas rather than along the corridor
- Resilient fauna
- Use existing trails rather than having pedestrians near the highway
- Mixed use buildings

See **Appendix B: Meeting Two Design Feedback** for more details.

Design Input: Design Renderings Feedback Examples

Community members also used the comment tool on Google Slides to engage with the initial design renderings for sites in along the U.S. 41/M-28 Corridor. The feedback was used to improve the design to better match resident interests.



Community Input

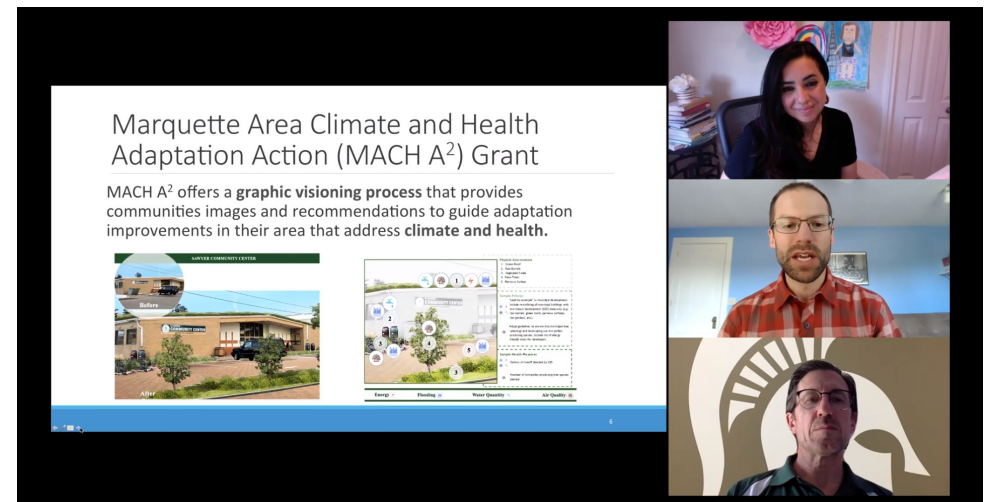
Meeting Three: Final Recommendations

The final vision project meeting was held on June 25, 2020 virtually over Zoom due to pandemic-related stay-at-home orders. The MSU team presented a review of Meetings One and Two, followed by the refined design images and planning recommendations. Attendees were asked to answer one question via the Zoom chat function:

Which recommendation(s) presented today are the most important to see implemented?

- Benches and painted walkways at sites #3 and #5*
- Dry channel at site #4*
- Trenching at site #6*
- Plantings and infiltration drainage
- Measures to combat invasive species and encourage foliage maintenance.
- Lighting
- Pedestrian mobility in front of the hotel
- Solar installations on the hotel

*For site-specific feedback, see the design images on pages 25-38.



Captured image from the June 25, 2020 Meeting Three Zoom webinar.

See **Appendix C: Meeting Three Implementation Preferences** for more details.

Design Considerations

The following considerations are based on input garnered throughout the first and second meetings with the U.S. 41/M-28 Corridor community. These ideas are categorized into four themes to guide the designs and help develop actionable planning recommendations.

Theme #1: Connectivity – to improve the connection both along the corridor and between the corridor and the rest of the community



- Improve trail connection with US-41
- Improve trail design and amenities
- Encourage active transportation and mass transit along the corridor
- Improve pedestrian safety along the corridor
- Improve pedestrian comfort along the corridor

Theme #3: Revitalization – to enhance the vitality of the area through sustainable businesses and adaptive reuse



- Mixed use development
- A range of housing types
- Sustainable infill and redevelopment
- Active nodes/intersections and transit oriented-design
- Renewable, efficient, and resilient energy

Theme #2: Aesthetics – to enhance the visual quality and appeal of the area



- Landscaping/tree linings/flower baskets/rain garden/vegetated buffers
- Local vegetation/plants
- Unique lighting system designs
- Complimentary signage system
- Building facades
- Interesting skyline

Theme #4: Placemaking – to enhance the sense of place along the corridor and provide the community gathering and event spaces



- Plazas and open spaces with functional variety
- Enhance ground floor appeal on buildings to support pedestrian activity
- Celebrate local qualities, traditions, and identity
- Historic preservation/respect local architecture
- Active inclusion of all ages, races, and physical abilities



Design & Planning Recommendations

Design & Planning Recommendations

In order to move forward and execute the design considerations, there are a number of recommendations that can be implemented. The recommendations draw from community feedback while addressing some of the larger climate and health concerns of Marquette County. These recommendations are framed within four key themes that are intended to contribute to the vitality and appeal of the U.S. 41/M-28 Corridor.

The four themes are Connectivity, Aesthetics, Revitalization, and Placemaking. Planning recommendations and action steps have been developed for each.



Design & Planning Themes:

-  Connectivity
-  Aesthetics
-  Revitalization
-  Placemaking

Design Locations

Seven sites were selected for applying climate and health adaptation techniques. These sites were selected by the MSU team based on their identification in community conversations, their unique characteristics, and their potential for meeting community goals through creative reuse. Before and after design renderings containing proposed design solutions were developed for each site.





Site 1 Trail

Existing Condition



Final Recommendation



Site 2 Underpass



Existing Condition



Recommendation A



Site 2 Underpass

Final Recommendation



Site 3 Mixed-Use Building



Existing Condition



Recommendation A



Site 3 Mixed-Use Building

Final Recommendation





Site 4

Median West

Existing Condition



Final Recommendation—I



Recommendation A



Site 4 Median West

Final
Recommendation- 2





Site 5 Wright Street

Existing Condition



Recommendation A



Recommendation B



Site 5 Wright Street

Final Recommendation—1



Final Recommendation—2



Recommendation A

Site 6 Right of Way



Existing Condition



Recommendation B



Site 6 Right of Way

Final Recommendation—1



Final Recommendation—2





Site 7

Median East

Existing Condition



Final Recommendation—I



Recommendation A



Site 7 Median East

Final
Recommendation—2





Connectivity

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Improve trail connection with US-41	AQ	Vol II p. 27	2013 Marquette Township Master Plan (2013 MP)	Connect the bike trail system to key assets.	Develop connections between the north trails connector trail and corridor businesses.
	AQ	Vol II p. 27	Marquette Township Recreation Plan	Expand the development of walkable and bikeable options throughout the area.	Explore funding from the Michigan Department of Natural Resources (MDNR) Land and Water Conservation Fund.
Improve trail design and amenities	AQ	Vol II p. 27	Marquette Township Recreation Plan	Add wayfinding that directs pedestrians to cultural, natural and retail sites.	Apply for League of Michigan Bicyclists micro-grants. Register key points of interest as features on Google Maps.
	VA, AQ, ER/EE, WR	Vol III p.17		Include informational signage related to vector awareness, wildfire prevention, and water quality protection along trails and recreational areas.	Incorporate signage in Township Recreation Plan updates. Explore funding through the Michigan Department of Natural Resources, local parks and recreation, Community Foundation grants, and Superior Health Foundation grants.
	AQ	Vol II p. 27	Marquette Township Recreation Plan	Locate pedestrian and bike amenities along the trail including the intersection of the trail/US-41.	Build benches, bike racks, shelters, directional signage and water fountains at various locations.
			2013 MP	Ensure accessible design in all trail related developments.	Expand the Complete Streets ordinance principles to include trail design and linkages.
	VA	Vol II p.19		Encourage “Tick-Safe” landscaping in the development process.	Include “Tick-Safe” landscaping standards in recommended design guidelines.

Climate and Health Concern Key:

VA – Vector Awareness
AQ – Air Quality

ER/EE – Emergency Response/Extreme Events
WR – Water Related



Connectivity

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Encourage active transportation and mass transit along the corridor	AQ	Vol II p. 27	2013 MP	Locate bike and pedestrian amenities along the corridor.	Include bike amenities such as benches bike racks, shelters, directional signage and water fountains in site plan review and design standards.
	AQ	Vol II p. 27	2013 MP	Establish active transit options that link residential areas and the corridor.	Explore the feasibility of a bike-sharing system along the corridor.
				Establish mass transit options that link residential areas and the corridor.	Apply for League of Michigan Bicyclists micro-grants. Work with Marq-Tran to identify ways to establish frequent, reliable public transit bus service on the corridor to reduce private car usage.
Improve pedestrian safety along the corridor through a path, visible crosswalks, and traffic signals	AQ	Vol II p. 27	2013 MP; 2016 Parsons-Brinkerhoff US-41 Lighting and Non-Motorized Design Study	Extend non-motorized path in right-of-way along full length of corridor.	Continue to explore the inclusion of a path on the north side of corridor between Wright and Commerce in MDOT 2021 project.
					Apply for the Transportation Alternatives Program (TAP) grant funding through MDOT.
					Include non-motorized paths in the Capital Improvement Plans.
				Clearly identify curb cuts using distinguished markings, alternative materials, and improved crossing signals.	Apply for Transportation Alternative Program grant funding through MDOT.
					Explore collaborative improvements with Safe Routes to School grant improvements.
		US-41/M-28 Comprehensive Corridor & Access Management Plan	Reduce curb cuts along the corridor to minimize pedestrian interactions with driveways.	Ensure crosswalk design is included as part of the site plan review process throughout the corridor.	
		US-41/M-28 Comprehensive Corridor & Access Management Plan	Explore options to slow motorized vehicle traffic through the corridor.	Implement remedial access management techniques presented in the Marquette Township US-41/M-28 Comprehensive Corridor and Access Management Plan.	
				Identify techniques to reduce traffic speeds (e.g. road diets) for next MDOT corridor investment.	



Connectivity

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step	
Improve pedestrian comfort along the corridor through amenities, lighting, and signage	EREE	Vol II p. 40		Establish “Warming Centers” for residents during extreme cold events.	Identify businesses and locations along the corridor willing to act as “Warming Centers” for residents.	
	AQ, WR	Vol II p. 25		Expand tree canopy along the corridor near pedestrian and bike amenities to act as shade.	Seek assistance through the Michigan Department of Natural Resources Urban and Community Forestry Program.	
					Incorporate principles of the EPA Green Street Design Guide into local planning decisions and capital improvements plan.	
					Apply for the Michigan Arbor Day Alliance Tree Planting Grant, the DNR – DTE Energy Foundation Tree Planting Grants or the ReLeaf Michigan program to fund tree planting.	
				2016 Parsons-Brinkerhoff US-41 Lighting and Non-Motorized Design Study	Expand pedestrian lighting along the corridor.	Pursue vehicular and pedestrian lighting in accordance with the 2016 Parsons-Brinkerhoff US-41 Lighting and Non-Motorized Design Study.
				2013 MP	Add wayfinding that directs pedestrians to cultural, natural and retail sites.	Work with region and county to implement area-wide wayfinding signage.
			Apply for League of Michigan Bicyclists micro-grants.			
			Register key points of interest as features on Google Maps.			

Climate and Health Concern Key:

VA – Vector Awareness
 AQ – Air Quality

ER/EE – Emergency Response/Extreme Events
 WR – Water Related



Aesthetics

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Landscaping/tree linings/flower baskets/rain garden/vegetated buffers	EREE, WR	Vol III p. 24, p. 29, p. 30 Vol II p. 37, 38, 42, 44	2013 MP	Implement policies that facilitate increased use of Green Infrastructure (GI) and Low Impact Development (LID) to reduce stormwater runoff.	Include Green Infrastructure (GI) and Low Impact Development (LID) as part of the Site Plan Review requirements for proposed developments.
					Adopt developer incentives (monetary, fast-track permitting, technical assistance, etc.) to encourage LID in new developments and retrofits to reduce runoff and potential flooding.
					Explore funding for GI projects through MICHAP, GLOW, GLISA, Regional Prosperity Initiative, Marquette Community Foundation, and Superior Watershed Partnership (p. 30 V.III), and the State Revolving Fund loan (p. 24 V.III).
					Coordinate with neighboring communities to develop region-wide stormwater management plan.
	AQ	Vol II p. 30	Encourage low-pollen producing plants for new landscaping and within median.	Include plant species requirements in site plan review process.	
				Collaborate with the Superior Watershed Partnership to identify ways to incorporate Green infrastructure into the median and Right-of-Way.	
Local vegetation/plants	AQ, WR	Vol II p. 25	Encourage tree planting that maximize the absorption of air pollutants.	Seek assistance through the Michigan Department of Natural Resources Urban and Community Forestry Program.	
				Incorporate principles of the EPA Green Street Design Guide into local planning decisions and capital improvements plan.	

Climate and Health Concern Key:

VA – Vector Awareness

AQ – Air Quality

ER/EE – Emergency Response/Extreme Events

WR – Water Related



Aesthetics

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Unique lighting system designs				Update streetlights, signage, trash receptacles, and benches to present a complimentary and unique character.	Work with the Downtown Development Authority (DDA) to develop a consistent theme that reflects the local character.
Complimentary signage system/ unique downtown banners					Leverage DDA financing for amenity improvements.
			US-41/M-28 Comprehensive Corridor & Access Management Plan	Consolidate business signage.	Update the sign ordinance to encourage consolidated signage for businesses along the corridor.
Building facades	EREE	Vol II p. 40		Develop minimum weatherization standards for upgrades and new developments.	Update the zoning ordinance to require or incentivize weatherization and/or LEED-ND standards for new development and redevelopment.
				Encourage design standards such as quality materials and façade appearance.	Review the municipal zoning ordinances to evaluate which design standards could be updated or added. Work with the DDA to apply for the Façade Restoration Initiative Grant from the Michigan Economic Development Corporation (MEDC).

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Revitalization

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Mixed use development	AQ, WR	Vol III p. 22, Vol II p. 48	2013 MP	Encourage market-supported, mixed use development.	With the Central Upper Peninsula Planning and Development Regional Commission and the Marquette Township Business Association, conduct a retail market analysis to identify markets and locations for critical needs businesses.
				Support businesses that meet the basic needs of the community residents (e.g. grocery stores, health centers) within walking distance of residential areas.	
Provide a range of housing types to meet the needs of various demographics	AQ, WR	Vol III p.22, Vol II p. 48	2013 MP	Encourage mixed-use neighborhood oriented commercial centers.	Work with the Michigan State Housing Development Authority to conduct a housing/mixed use housing study.
	ER/EE, WR	Vol II p. 34, p. 48	2013 MP	Encourage the development of a variety of housing types where appropriate.	Establish developer incentives for a variety of densities/mixed use housing throughout the area. Encourage the use of grant funds to support low-income, disabled, and elderly housing.
Sustainable infill and redevelopment			2013 MP	Prioritize vacant site reuse and revitalization of existing spaces over new development.	Initiate steps towards Michigan Economic Development Corporation Redevelopment Ready Communities (RRC) Certification.
	AQ, WR	Vol III p.22, Vol II p. 48		Use infill development to increase the housing supply close to public amenities.	
				Engage local business owners to identify opportunities for growth.	Encourage local business owners to work with the Michigan Small Business Development Center.
				Attract small businesses with a diverse range of services and products.	Work with the Central Upper Peninsula Planning and Development Regional Commission to strategize small business development. Continue to partner with organizations such as Innovate Marquette to promote the corridor as an entrepreneur-friendly location.



Revitalization

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Active nodes/ intersections and transit oriented-design	AQ	Vol III p. 22	2013 MP	Incentivize design strategies that bring a variety of transit options close to businesses and housing on the corridor.	Include appropriate scale Transit-Oriented Design strategies as part of the site plan review process.
					Work with Marq-Tran to ensure spaces designed for transit are served by frequent bus service.
Renewable, efficient, and resilient energy	AQ	Vol III p. 21, Vol II p. 28	2013 MP	Encourage renewable energy sources and energy efficiency.	Partner with Superior Watershed Partnership, Energy Conservation Corps (ECC) and Michigan Energy Options to explore further opportunities for renewable energy and energy-efficiency with the Community Energy Management (CEM) program through the Department of the Environment, Great Lakes and Energy (EGLE), Energy Services.
	AQ, ER/EE	Vol II p. 24, p. 34, p. 40	US-41/M-28 Comprehensive Corridor & Access Management Plan	Consider the burial of power lines for protection in major weather events.	Work with utility companies to determine feasibility. Include in the Capital Improvement Plan.

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Placemaking

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Plazas and open spaces with functional variety	AQ	Vol II p. 27		Implement Tactical Urbanism practices that create short-term development solutions.	Establish policies to support pop-up shops (temporary retail spaces) close to current retail establishments or in currently vacant buildings or lots.
			2013 MP	Launch a summer outdoor music series that highlights local artists and businesses.	Work with the Marquette Township Business Association and the Downtown Development Authority to orchestrate a designated “events” group.
	WR	Vol II p. 48		Utilize green infrastructure design when creating new public space.	Include features like permeable pavers and rain gardens in new shared public spaces.
Enhance ground floor appeal on buildings to support pedestrian activity	AQ	Vol II p. 27		Use streetscape amenities to engage pedestrians.	Provide incentives in the zoning ordinance and site plan review to promote more outdoor seating/dining along the corridor and adjacent streets.
				Encourage outdoor seating and dining, as well as open store fronts.	
				Guide the architectural design of new developments to support pedestrian activity.	Explore form-based incentives or an overlay district for land adjacent to the corridor.

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Placemaking

Design Consideration	Climate/Health Concern	MACHAP Volume Reference	Local Plan Alignment	Planning Recommendation	Action Step
Celebrate local qualities, traditions, and identity through landmarks and visuals			2010 US-41/M-28 Comprehensive Corridor & Access Management Plan	Establish a gateway experience to the corridor at both ends of the project site.	Add distinct “Welcome” signage and landscaping that clearly demarks the area.
				Encourage a public art movement with local associations and artists. Encourage art celebrating the local history.	Apply for the Michigan Economic Development Corporation’s Michigan Council for Art and Affairs Grant to help fund the expansion of the promotion of arts and culture in the area.
					Start a crowdfunding initiative and seek matching funds from Michigan Economic Development Corporation’s Public Spaces Community Places program.
					Engage local artists and residents to identify desirable locations for public art.
	WR	Vol II p. 48		Promote Marquette Township’s active conservation efforts.	Set green infrastructure standards for public spaces that ensure the use of native, low-water-dependent landscaping on public properties.
Historic preservation/ respect local architecture			2013 MP	Identify and recognize sites of historical significance.	Work with the Marquette Regional History Center and the Marquette County Historical Society to identify and recognize sites of historical significance along the corridor.
Active inclusion of all ages, races, and physical abilities in all designs			2013 MP	Continue to implement the Complete Streets Ordinance in all infrastructure improvements.	Identify infrastructure along the corridor that is non-ADA compliant and target those areas for upgrades.

Climate and Health Concern Key:

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Appendix

Appendix A: Meeting One Visioning Input

At Meeting One, participants provided input to develop a vision for the U.S. 41/M-28 Corridor area. Attendees provided written responses to three questions. Responses were categorized into themes. The charts below show the frequency each theme was mentioned in the responses.

What are you proud of about the project focus area?	
Theme	Count
Recent improvements	13
Businesses	10
Engagement	5
Gateway	5
Proactive measures	5
Exposure	3
Opportunity	3
Safety	3
Cooperation	2
Pedestrian activity	2
Recreation	2
County model	1
Focal point	1
Hotels	1
Parking	1
Residential nearby	1
Schwemwood Park	1
Traffic controls	1

What are you sorry about for the project focus area?	
Theme	Count
Pedestrian safety	11
Circulation	7
Median maintenance	7
Vacancy	6
Lighting	5
Funding	4
Stormwater	4
Heavy traffic	3
Lack of planning	3
No deceleration lanes	3
Utilities	3
Biker safety	2
Invasive species	2
Limited space	2
Snow removal	2
Access management	1
Aesthetics	1
Business access	1
Disrepair	1
Housing	1
Lack of greenspace	1
Light pollution	1
Lost character	1
Pavement	1
Safety	1
Traffic pollution	1
Traffic safety	1

What would you like to see as you float over the project focus area in a hot air balloon 15 years from now?	
Theme	Count
Green infrastructure	11
Safe pathways	10
Renewable energy	7
Sustainable businesses	6
Greenery	5
Increased access	4
Lighting	4
Speed controls	4
Traffic flow	4
Crosswalks	3
Façade improvements	3
Access management	2
Connectivity	2
Downward lighting	2
Mass transit	2
Education	1
Gathering places	1
Green spaces	1
Housing	1
Improved aesthetics	1
No powerlines	1
Recreation	1
Reused spaces	1
Sign regulation	1

Appendix B: Meeting Two Design Feedback

At Meeting Two, participants were asked before the presentation to imagine a special place they had visited and describe what made that place unique. After the presentation, participants were asked to describe something they saw at the meeting that created a sense of place for the U.S. 41/M-28 Corridor. The responses are shown below.

During and following the meeting, participants and plan steering committee members were asked to provide feedback to the images via online survey and feedback form. The images and the related responses are included below.

Intro Question - Imagine a vibrant place you have visited. In one word or phrase: What made that place unique? Please use the Zoom chat function to respond:

- Organized
- Efficient
- Walkable
- Natural
- Sense of community
- Fresh, clean air and pleasant surroundings
- Safe quiet place

End Question - What is one thing you saw that creates a unique U.S. 41/M-28 Corridor? Please use the Zoom chat function to respond:

- No responses



- I like the greenery, division of the pathway and downward facing lighting (I'm assuming the lights are solar powered.)
- Visually, more pleasant environment to be engaged in
- It may be beneficial to seek input from the MDNR since they will maintain the trail for snowmobiles (committee)



- This looks very appealing, but given the economic atmosphere of the UP (even before the pandemic) I don't think this is very feasible. I don't think you will attract the commercial aspect of multi-use property.
- Any surface within MDOT ROW will need to be smooth enough to be ADA compliant and not affect plowing operations. The decorative surface would be susceptible to plow damage (committee)
- The area behind the curb and gutter near the roundabout gets cleared by a snowblower and/or front end loader. Rocks, bushes, trees would be in the way of snow removal operations (committee)
- The islands along the US-41 median gets plowed by a front end loader near the roundabouts, these landscape items would need to be removed from the median islands (committee)

Appendix B: Meeting Two Design Feedback

During and following the meeting, participants and plan steering committee members were asked to provide feedback to the images via online survey and feedback form. The images and the related responses are included below.



- The greenery that you have suggested throughout this presentation is very appealing but I'm wondering: 1. who will be in charge of keeping it up 2. what affect our snow, cold, salt and sand will have and 3. have invasive species been factored into this also?
- This area gets plowed by a front end loader, the current project will construct decorative concrete islands, if it were converted to a grass surface the township will need to maintain the grass surface. The grass will be susceptible to damage by snow removal operations (committee)
- Over time winter traction sand may build up in the drainage course, the township will need to agree to keep this drainage course clean of significant sediment buildup (committee)
- The rocks will need to be traversable and not cause a vehicle to roll over (committee)



- Rocks/boulders/bushes in this area are in conflict with snow removal operations, this rock depending on size could also be a clear zone hazard (committee)



- Pedestrian way needed to promote walking.
- Light pole may be too close to highway, needs to be set back 25 feet from the outside edge of the traffic lane or will need to meet NCHRP 350 criteria (committee)
- These concrete blocks would be in conflict with snow removal operations (committee)
- The sidewalk is located in the area of the highway snow banks, if the sidewalk is cleared in the winter the township will need to agree to push/blow snow on the sidewalk away from the highway (committee)



- Trees in this area will be in conflict with snow removal operations, the tree depending on size could be larger than 4 inch diameter and therefore a clear zone hazard (committee)

Appendix B: Meeting Two Design Feedback

During and following the meeting, participants and plan steering committee members were asked to provide feedback to the images via online survey and feedback form. The images and the related responses are included below.



- Like the fact that bike ability has been factored in
- The sidewalk will need to be located a minimum 5.5 feet from the back of the curb and gutter. MDOT will still maintain a 5.5 foot paved maintenance strip. (committee)
- This type of surface may be susceptible to damage from snow removal operations (committee)



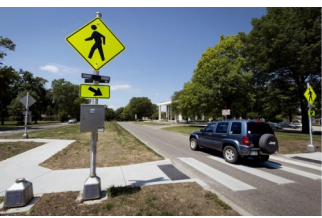
- Many of these rocks appear to be clear zone hazards (committee)
- Trees will be in conflict with snow removal operations, also trees located along the outside of the highway will be susceptible to damage from the weight of the snow plowed off of the traffic lanes (committee)
- Will need to be a tree size with a diameter of 4 inch or less (committee)
- Overall height of block will need to be less than 8 inches, landscape bed may fill in with winter traction sand over time (committee)

Appendix B: Meeting Two Design Feedback

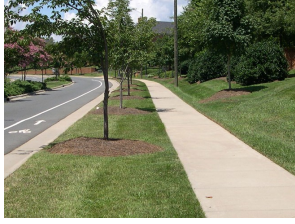
During and following the meeting, participants and plan steering committee members were shown and asked to respond to character images of designs from other communities that reflected the ideas heard at Meeting One. The images are shown below.

Connectivity

Pedestrian safety



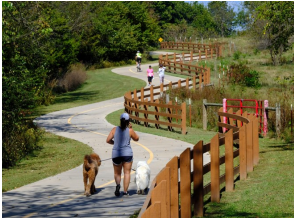
Pedestrian comfort



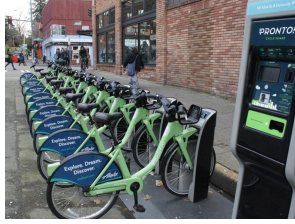
Bike safety and comfort



Bike safety and comfort



Multi-modal transportation



Appendix B: Meeting Two Design Feedback

During and following the meeting, participants and plan steering committee members were shown and asked to respond to character images of designs from other communities that reflected the ideas heard at Meeting One. The images are shown below.

Aesthetics

Green infrastructure for visual appeal



Aesthetically appealing crosswalks



Unique landmarks and benches



Aesthetically appealing sidewalks

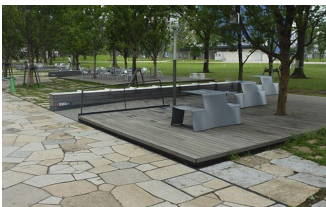


Appendix B: Meeting Two Design Feedback

During and following the meeting, participants and plan steering committee members were shown and asked to respond to character images of designs from other communities that reflected the ideas heard at Meeting One. The images are shown below.

Placemaking

Accessible plazas and open spaces with functional variety



Landmarks and visuals that celebrate local identity



Wayfinding and educational signage



Revitalization

Mixed-use development/
Sustainable infill and
redevelopment



Range of housing types



Renewable, efficient,
and resilient energy



Appendix C: Meeting Three Implementation Preferences

At Meeting 3, participants were asked: Which recommendation(s) presented today are the most important to see implemented?

Site-based



- (Site #3) Developers will have to decide if they can make this work. I like the benches and painted walkway



- (Site #4) Dry channel a great idea. Grass still needs to be addressed



- (Site #5) This can be considered after the developer finishes their property enhancements. Not cost-effective to bury powerlines. Painted crossings great

General

- Plantings and drainage in the corridor is number one. Biking and walking along the corridor is number two
- The infiltration drainage will be a good move
- The DDA and township are still interested in having some lighting if possible
- Solar panels for Lyn's hotel



- (Site #6) Trenching good. Property owners can keep grass cut but snow and salt ruins the area every year



- (Site #7) This area is near the city line. Different plantings can withstand the winter and keep invasive species down

Other Comments

- Greenery will have to be climate resistant. Have to look at plowing
- We should look to infill with the RRCs. We have enough big boxes already
- RRCs also have redevelopment ready sites that the MEDC helps to promote
- I'm not sure townships qualify for RRC program
- Stormwater has a lot of bang for the buck
- Safe crossing will be heavy lift from MDOT