



TECHNICAL MEMORANDUM

City of Farmington-Downtown Revitalization Project

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PREPARED FOR: City of Farmington
COPY TO: MRWM
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DATE: August 29, 2017

1.0 Executive Summary

The City of Farmington has launched an effort to revitalize the downtown region along Main Street with the east boundary of Miller Avenue to the west boundary of Auburn Avenue. This project was conceptualized in a 2015 Revitalizing Main Street: Vision and Implementation Plan report published by the Blue Zone and sponsored by the Metropolitan Redevelopment Agency and the City of Farmington.

OEI, together with MRWM, developed four alternative design concepts for the City's consideration. An additional alternative concept was suggested by the City of Farmington staff. All five alternative concepts were evaluated through a decision-making system called *Choosing by Advantages* (Shur, 1999) during the August 1 meeting in Farmington. This system provides a consistent approach to making informed decisions when multiple variables need to be considered.

Choosing by Advantages (CBA), detailed in Section 6 of this memo, compares attributes of each factor to determine an advantage. In doing so, this system provides decision makers with the ability to reach consensus, focus on outcomes, and understand all of the factors considered during the decision-making process.

The evaluation process considered each alternative concept measured against 8 major factors. A factor is an element of the decision.

Factors for the alternative street designs include:

- Lane Width
- Street Connectivity and flow
- Sidewalk Width
- Trees and Landscaping
- Increasing Safety by Reducing Potential Multi-modal Conflicts
- Enhancing Access for Emergency Vehicles
- Increasing Parking Spaces
- Parking Type and Strategy with Familiarity for Drivers

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In general, variables, or potential factors, impacting concepts in the same way and to the same extent do not generate an advantage for one option over another. Therefore, these types of variables are not considered as factors.

The project team elected to drop several factors from consideration including draining and snow removal, grading and flexibility to adapt to future technological advancements. The project team went through two iterations using the CBA decision making system. The first effort consisted of an internal prep meeting with OEI and MWRM. The following meeting included City representatives and incorporated the City of Farmington's scoring of the principal advantages in each factor.

The advantages of each factor above were determined and then balanced against the City of Farmington's key objectives:

1. **Economic Growth:** Creating a catalyst for economic development downtown
2. **Traffic:** Calming retail traffic and discouraging commercial trucking traffic
3. **Pedestrian Experience:** Enhancing the experience, safety, appearance, and draw for pedestrians
4. **Appearance:** Ensuring the downtown area is visually attractive

A modified Blue Zone approach emerged as the highest scoring alternative for the City of Farmington. This approach provides an 11' wide traffic lane for traffic in each direction, opening critically important opportunities for the City to seek state and federal funding. In fact, a traffic lane less than 11' in width would jeopardize future funding opportunities. This approach also provides the most parking spaces and a parking strategy they City perceived would be adopted by the public. The Modified Blue Zone approach provides the greatest improvement to traffic flow and connectivity, especially at the roundabout anticipated between Main Street and Orchard Avenue and provides space for emergency vehicles to navigate the planned roundabouts. The Modified Blue Zone approach increases sidewalk width by 4 feet as compared to the other options, ultimately providing pedestrians and business with a 15-foot sidewalk. The increased width of the sidewalk opens opportunities to increase the number of trees and landscaping in the area. Bicycle accommodation for all the options comes with limitations; however, the Modified Blue Zone approach offers the city fewer potential conflicts between cyclists and vehicles than the Blue Zone or the 22.5 Angled Parking approach.

The 22.5 Degree Angled Parking approach emerged as the second highest scoring alternative derived through the CBA meeting, with a total score of 390. The 22.5 degree angled parking approach differs from the modified Blue Zone in the width of the drive lane and the parking strategy. This approach provides for two 12' foot drive lanes traveling east and west along Main Street, allowing the City the opportunity to apply for state and federal funding. The lanes in this option are one foot wider than the modified Blue Zone approach. While this width may not calm traffic to the degree the City hopes, it will still provide for a safe and revitalized downtown area. This approach also includes two 15' angled parking zones on each side of the street, which is familiar to drivers and can be readily adopted as a parking strategy. This option omits park assist lanes or bicycle lanes as a matter of safety. Sidewalk width is an important advantage and this approach includes 13' sidewalks and 21 total parking spaces on Main Street with 37 trees. This option also provides for two roundabouts, one located at the intersection of Miller Avenue and Main Street and the other located at the intersection of Orchard Avenue and Main Street.

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Both of these options provide the City of Farmington with a dramatic improvement to the downtown area, increase parking and sidewalk width, enhance traffic flow and connectivity while still allowing emergency access within the potential two roundabouts and permit the City to pursue supplemental funding from state and federal resources.

2.0 Alternatives

Five alternative design concepts were developed with variables of lane width, sidewalk width, bike traffic, park assist lanes and parking strategies. A description of each option and a comparative analysis of options are provided in order to recommend a preferred option.

2.1.1 Blue Zone

This design concept was articulated by a professional main street improvement group called Blue Zone. The Blue Zone option includes 10' traffic lanes traveling east and west along Main Street, a 6' park assist lane for each direction of traffic, 8' parallel parking on side of the street with 16' back angled parking on the opposite side of the street and a 12' sidewalk. This option provides for 35 parking spaces and 41 trees. This option provides for two roundabouts, one located at the intersection of Miller Avenue and Main Street and the other located at the intersection of Orchard Avenue and Main Street. The distinguishing factor for this design concept is the 6' parking assist lanes on each side of Main Street. This parking assist lanes end prior to traffic entering the roundabout.

2.1.2 Modified Blue Zone

This option takes many of the goals and inspiration of the Blue Zone concept, but alters the width of the park assist lane and in turn, increases the traffic lane traveling east and west on Main Street and widens the sidewalks. The Modified Blue Zone option includes 11' traffic lanes traveling east and west along Main Street, a 3.5' park assist lane on the side of traffic with the 16' back-in angled parking. The opposite side of the street has a 2.5' to 3' park assist lane next to 8'-9' parallel parking. The sidewalks will be between 12' and 15' in this concept. This option provides for 36 parking spaces and 40 trees. This option also provides for two roundabouts, one located at the intersection of Miller Avenue and Main Street and the other located at the intersection of Orchard Avenue and Main Street. The distinguishing factor for this design concept is the 11-foot lane for traffic which allows the City of Farmington to seek state and federal funding by meeting a NMDOT traffic lane width standard requirement.

2.1.3 Dedicated Bike Lanes

The third design option focuses on the city's hope to include safe spaces for increase bicycle traffic. The Dedicated Bike Lanes option provides a bike lane on each side of Main Street, but in doing so, removes the park assist lane. This option includes two 11' drive lanes traveling east and west on Main Street, with a 6' bike lane on each side of the street. One side of the street includes 16' back-in angled parking with the opposite side of the street has 8' parallel parking. This option provides for 11' sidewalks. This option provides for a roundabout at Miller Avenue and Main Street, but does not include a roundabout at Orchard Avenue and Main Street. The median at Orchard is closed, prohibiting left turns as well as north to south (and vice-versa) through traffic at the Orchard / Main intersection. This option provides for 29 parking spaces and 33 trees. This unique approach and the designated bicycle lanes are the distinguishing features of this option.

2.1.4 22 Degree Parking on Both Sides of Main Street

The fourth design option provides a different approach to on-street parking as opposed to the others. The 22.5 head-in, angled parking option provides for two 12' foot drive lanes traveling east and west

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along Main Street and two 15' depth angled parking zones on each side of the street. This option omits park assist lanes or bicycle lanes. This approach allows for 13' sidewalks and 21 total parking spaces on Main Street with 37 trees. This option also provides for two roundabouts, one located at the intersection of Miller Avenue and Main Street and the other located at the intersection of Orchard Avenue and Main Street. The distinguishing factors for this approach include the width of the drive lanes on Main street and the angle of parking.

2.1.5 Parallel Parking Both Sides, with Bike Lanes

The final option was discussed during the August 1, 2017 CBA meeting with the City of Farmington representatives for this project. This approach would include parallel parking on both sides of the street that would in turn allow for the sidewalks to be widened. Each side of Main street would include a bicycle lane traveling east and west. Other features of this option, as related to the bicycle lanes, would be similar to the "Dedicated Bike Lane" concept described above.

3.0 Factors

There are eight factors to be considered for each alternative concept. These factors are described below.

3.1.1 Lane Width

The five options considered by the City of Farmington include a range of drive lane widths from 10' to 12'. The 10' foot lane width would jeopardize the City's opportunity to seek state and federal funding, but allows for a wider park assist lane and wider sidewalks. The 11' lane of traffic allows the city to be eligible for highway funding opportunities, reduces the park assist lane yet still allows for a wider sidewalk (wider than the current sidewalk). The 12' lane width also allows the city to be eligible for funding opportunities, but may not calm traffic to the degree the city wishes.

3.1.2 Street Connectivity and Flow

The City is greatly interested in building roundabouts at two main intersections within the revitalization area. These roundabouts would also serve to calm traffic and increase safety. These roundabouts also provide an opportunity to enhance the aesthetics of the area.

3.1.3 Sidewalk Width

The City wishes to cultivate economic development in the revitalization area, increase pedestrian traffic while enhancing the safety and experience for pedestrians. The width of the sidewalk plays a critically important function in serving these goals. Wider sidewalks create space for restaurants to have outdoor seating, more trees and landscaping, and retail shops may engage this space for marketing or inventory sales outside of their shops.

3.1.4 Trees and Landscaping

Trees and landscaping can simultaneously be considered with sidewalk width because widening the sidewalk allows for more trees and landscaping. This effort supports the city to meet goals of creating a downtown space with enhanced social capital and economic opportunity.

3.1.5 Increasing Safety by Reducing Potential Multi-modal conflicts

The City of Farmington would like to encourage bicycle traffic in the downtown area and connect the bicycle traffic with other areas as per the bicycle master plan. Each design concept provides a different approach to including bicycle traffic. Reducing the potential conflicts between bicyclists and motor vehicle drivers emerged as the important way to judge the advantages of this factor within each design

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concept. The City of Farmington representatives discussed bicycle lanes and traffic at length during the CBA process on August 1. The group ultimately determined that a dedicated bicycle lane would not support the City in meeting key goals within the area. The group also discussed how other adaptations of a bicycle lane would not satisfy the City's goals for bicycle safety. The final determination during the CBA process was to abandon building a dedicated bicycle lane.

3.1.6 Enhancing access for Emergency Vehicles

Large fire engines and ladder trucks must be able to navigate the roundabouts. The team carefully analyzed how such large vehicles would travel safely through the narrow area. The radius of the roundabout is impacted by the available space and other variables including bicycle lanes. This radius in concert with the other variables emerged as a way to judge the advantage of this factor within each design concept.

3.1.7 Increasing Parking Spaces

While the City does not currently have a problem providing adequate parking for downtown drivers, the City recognizes that the perception of available parking may positively impact the business owners and lure more drivers to the downtown area. Each design concept increased the number of available parking spaces along Main Street. The City also recognizes the overarching value of having drivers park their vehicles behind the buildings in currently open parking lots. Additionally, parking areas may be enhanced during this effort through lighting and landscaping.

3.1.8 Parking Type and Strategy with Familiarity for Drivers

The City of Farmington is considering a parking strategy that is not formally in place within the community, namely, head-out, back-in parking. The group discussed this dynamic at length during the CBA process including participants' volunteering experiences, expectations and approaches to engage with the public on changing parking strategy actions in the revitalized downtown area. The discussion included recognition that parking, regardless of strategy, creates opportunities for drivers to make errors and cause collisions. The group valued the effort of creating more attractive and functional parking lots during the revitalization effort. The group also recognized that all design options provided for more parking than is currently available. Downtown Farmington does not currently have problems with too few spaces. The City Representatives recognize that business owners feel strongly that parking in front of their respective door fronts is important to encourage customer traffic. Ultimately, City representatives feel the local culture includes an emphasis on back-in parking as motivated from oil and gas industry norms and feels secure that drivers to the downtown area will learn the adequate strategy to park in back-in spaces.

4.0 Assessment of Advantages

4.1 Choosing by Advantages

Choosing by Advantages provides a framework from which to compare advantages of each alternative.

This system does not compare advantages to disadvantages or pros and cons. Comparing pros and cons is limited because an attribute, when viewed as a pro or a con, can be mistaken for either one, depending upon the comparison. This contributes to arguments about how an attribute should be labeled. *Choosing by Advantages* recognizes that an attribute is neither good nor bad, but is a characteristic of one alternative. *Choosing by Advantages* decision-making system compares attributes of each factor and allows the team to determine the advantage of one among the others. In doing so,

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this system provides decision makers with the ability to reach consensus, focus on outcomes, and understand all of the factors considered during the decision making process.

Variables (potential factors) impacting the downtown revitalization efforts in the same way and to the same extent don't generate an advantage for option over another. Therefore, those variables are not considered as a factor.

The factors impact the three alternative routes differently and in doing so, create an attribute. Attributes are a characteristic of one alternative and emerge as a way to compare the different design concepts and determine advantages. For example, each design concept will bring some amount of change in the width of the drive lane on Main Street. Lane width is the factor. The number of feet created by the design concept is the attribute. Comparing that attribute among all the design concepts leads to the conclusion that an 11' foot lane width is the better option, or an advantage. An advantage is the difference between alternatives.

Comparing the advantages among the eight factors generated an overall list of the most to least important using subjective and objective data. Attributes of each factor were discussed and measured objectively when possible and subjectively as appropriate. The first level of measurement considered how the attribute impacted each design concept. From this comparison, the most advantageous attribute was circled in green.

This following text is a narrative explanation for the information provided in Appendix 1, Choosing by Advantages Decision Analysis Summary Table A.

The advantages for each factor are circled in green:

- 4 feet wider sidewalk
- 16 additional parking spaces
- Very good familiarity with parking type
- Minimal multi-modal conflicts
- Better connectivity and flow
- Better access for emergency vehicles
- 1 additional foot of land width
- 20 additional trees

The group then organized each bulleted item, listing the most important item first followed by each item in order of importance. The group also assigned a numerical value on a scale of 0 to 100 to each. This scale was arbitrarily chosen. Each factor and subsequent attributes are described below, including the assigned score and level of importance. The lowest ranked alternative for each factor was not scored, because it was not an advantage.

List of advantages and score:

- 1 foot additional lane width **100**
- Better connectivity and flow **90**
- 4 foot wider sidewalk **80**
- 20 additional trees **80**
- Minimal multi-modal conflicts **80**
- Better access for emergency vehicles **80**

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- 16 additional parking spaces **50**
- Very good familiarity with parking type **40**

4.1.1 Summary of advantages

After scoring advantages for all the design concepts, The Blue Zone scored 270, the Modified Blue Zone scored 446, the 22.5 angled parking scored 390, the dedicated bike lanes scored 228, while the parallel parking with bike lanes scored 296. Please refer to Table 5-1.a for the CBA scoring. Therefore, Modified Blue Zone is the preferred design concept for the City of Farmington, providing the city with the best advantage for supporting economic development, calming traffic and increasing safety, while providing a downtown area attractive to pedestrians and businesses.

Modified Blue Zone

Modified Blue Zone had the highest score at the end of the Choosing By Advantages decision making system. This design concept offers the City of Farmington the best opportunity to revitalize downtown, to enhance retail traffic while discouraging commercial truck traffic, to improve the appearance of the area and provide a space attractive to businesses and the community.

5.0 Other Considerations

The CBA meeting generated the Modified Blue Zone as the highest scoring alternative for the City of Farmington, with the other options in subsequent priority. In the best interest of the community and to encourage public involvement in the downtown revitalization effort, the City of Farmington will present the top two highest scoring options for consideration to the city council. The second option, providing for 22.5 degree head-in parking, shall also serve as an alternative for consideration.

6.0 Appendix

1. Choosing by Advantages Decision Analysis Summary Table

7.0 References

1. Suhr, Jim (1999). The Choosing By Advantages Decision-making System. Library of Congress.



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Appendix 1:

Choosing by Advantages Decision Analysis Summary Table

FACTORS	Criteria <i>Must and Want</i>	Alternatives: Concept Options for Complete Streets Blocks										CBA Language	
		Blue Zones		Modified Blue Zones		22.5 deg angle park both sides		Dedicated Bike Lanes		Parallel Both Sides / Bike Lanes			
Sidewalk Width	wider is better	12		15		13		<u>11</u>		14		attribute	
		1	20	4	80	2	40			3	60	advantage	importance
Parking Spaces	more spaces is better	35		36		21		29		<u>20</u>			
		15		16		1		9					
Parking Maneuvers	familiarity	<u>minimal</u>		<u>minimal</u>		good		<u>minimal</u>		fair			
						very good familiarity	40			good familiarity	20		
Bicycle Accommodation	Masterplan, safety	<u>mixed signals for cyclists</u>		cyclists with traffic sharing the driving lane		cyclists with traffic sharing the driving lane		cyclists have dedicated lane, but impacts Orchard roundabout		cyclists have dedicated lane, but impacts Orchard roundabout			
				fewer conflicts	40	fewer conflicts	40	minimal conflicts	80	minimal conflicts	80		
Traffic Flow	manueverability, safety, connectivity	good		good		good		<u>fair</u>		<u>fair</u>			
		better connectivity	90	better connectivity	90	better connectivity	90						
Emergency Access	public safety - police, fire, ambulance	good		good		good		<u>fair</u>		<u>fair</u>			
		better access	80	better access	80	better access	80						
Lane Width	Flexibility, 10 ft min	<u>10</u>		11		11		11		11			
				1	100	1	100	1	100	1	100		
Streetscape and Landscape Amenities	opportunities to accommodate?	41 trees		40 trees		<u>21 trees</u>		33 trees		30 trees			
		20	80	19	56			12	48	9	36		
Drainage and Snow Removal	capacity and efficiency												
Grading	cross-sectional elements												
Flexibility	opportunity to adjust critical dimensions and factors												
Property / Environmental	Other?												
Total Importance			270		446		390		228		296		0

Ranking - >

Principal Decision Factors

1	4 ft wider sidewalk	1 additional ft of lane width	100
2	16 additional parking spaces	better connectivity and flow	90
3	very good familiarity with parking type	4 ft wider sidewalk	80
4	minimal multi-modal conflicts	20 additional trees	80
5	better connectivity and flow	minimal multi-modal conflicts	80
6	better access for EA	better access for EA	80
7	1 additional ft of lane width	16 additional parking spaces	50
8	20 additional trees	very good familiarity with parking type	40