MILWAUKEE COMPLETE STREETS
Project Development Workbook

Instructions

Department of Public Works (DPW) project managers (PMs) are responsible for completing the *Project Development Workbook* (Workbook) to ensure that all projects follow the City of Milwaukee's (City's) Complete Streets Policy (#180922). The Workbook is meant to be a living document and is the PM's guide through the development of a typical DPW project. It shall be completed by the PM step-by-step as the project moves through project development.

The Workbook serves as a guide to the policies, procedures, and project development pointers found in the *Milwaukee Complete Streets Handbook* (Handbook) created by the DPW to ensure that all projects address accessibility and maximize the comfort, safety, and needs of all users, regardless of age, ability, or mode/purpose of travel. Greater detail for each step in the project development process can be found in Chapter 3 of the Handbook.

Depending on project processing, the DPW PM may need to complete some or all seventeen steps of project development. **Once Step 1 – Determine Project Processing has been completed, all steps that the PM must complete as applicable to the project type, processing, and context will be shown in BLUE. Steps in GRAY do not need to be completed.**

Project Essentials

Project Name		
Project Number		
TIP Number		
Project Manager		
Consultant(s)		
Contract Number		
Project Phase(s)	Feasibility analysis/corridor planning study	☐
	Preliminary design (planning through 30%)	☐
	Final Design (60% through final PSEs)	☐
	Construction	☐
Project Processing	WisDOT – state/federal funds and/or state-owned corridor and/or intersection	☐
	Federal – federal funds used	☐
Project Location(s)		
Project Letting	State Let	☐
	Local Let	☐
	Anticipated letting date	
Project Value	Anticipated design value	
	Anticipated construction management value	
	Anticipated construction value	

Initiation

During Project Initiation, the initial scope developed during Project Identification and Selection is verified or modified based on data collection and community Design Priorities and feedback. At the end of Project Initiation, Design Priorities are defined and a final project scope is set. Project Initiation encapsulates all activities in the "Project Initiation" stages of the WisDOT Facilities Development Process.

Step 1: Determine Project Processing

1.1 Determine Project Typology

Pick one Typology, for more detail on selecting Project Typology, see pg. 3-9 of the Handbook:

-

1.2 Determine Project Funding

Pick one:

-

1.3 Determine Project-Dependent Steps

The "Processing by Project Type and Funding" table on pg. 3-12 of the Handbook notes which steps are required, are project-dependent, or are not applicable.

Will the project require approval by WisDOT and/or FHWA?	-
Are any optional/project-dependent steps necessary to justify project scope/impacts?	

1.4 Identify Prior Planning Efforts

Certain project development steps may have been completed through other projects or planning efforts. To honor past engagement, expedite project delivery, and avoid duplication of work, note any previous planning efforts, engagement events, goals identification, and/or alternatives developed through other work both within and outside DPW:

Community Engagement #1	
Project Goals	
Alternatives Development	
Community Engagement #2	
If other project-dependent steps can be waived due to prior engagement, explain	

1.5 Identify and Document Project Constraints

To stay on schedule and within budget, what constraints should be noted and factored into project processing?	

1.6 Determine Environmental Processing

Date Cultural Screening submitted to Cultural Resources Team	
Processing Determination	
Anticipated Environmental Document Type	

1.7 Finalize Project Processing Plan

The following project development steps will be completed for this project:

Phase	Step		Required	Project-Dependent (refer to Step 1.3)	Required but Waived Based on Step 1.4?
Initiation	1	Determine Project Processing	Yes - ☐	*n/a*	*n/a*
	2	Data Collection and Existing Conditions	Yes - ☐	Yes - ☐	Yes - ☐
	3	Community Engagement Plan	Yes - ☐	Yes - ☐	Yes - ☐
	4	Community Engagement 1 – Project Introduction, Existing Conditions, and Goals	Yes - ☐	Yes - ☐	Yes - ☐
	5	Project Goals	Yes - ☐	*n/a*	Yes - ☐
Conceptualization	6	Identification of Design Elements	Yes - ☐	*n/a*	Yes - ☐
	7	Alternatives Development	Yes - ☐	Yes - ☐	Yes - ☐
	8	External Agency Coordination	Yes - ☐	Yes - ☐	Yes - ☐
	9	Community Engagement 2 – Alternatives Presentation	Yes - ☐	Yes - ☐	Yes - ☐
Design	10	Preliminary Design (30%)	Yes - ☐	*n/a*	Yes - ☐
	11	Construction Engagement Planning	Yes - ☐	Yes - ☐	Yes - ☐
	12	Community Engagement 3 – Preferred Alternative	Yes - ☐	Yes - ☐	Yes - ☐
	13	Detailed Design (60-90%)	Yes - ☐	*n/a*	Yes - ☐
	14	ROW Acquisition	*n/a*	Yes - ☐	*n/a*
	15	Final Design (100%, Plans, Specs, and Estimates)	Yes - ☐	*n/a*	Yes - ☐
	16	Project Evaluation	Yes - ☐	Yes - ☐	Yes - ☐

Approved by Unit Head	

Step 2: Existing Conditions and Data Collection

2.1 Assess and Document Existing Conditions

Complete the following tables. For more complex projects, such as Transformative Investment projects, an Existing Conditions memo (see page 3-24 in the Handbook) may be necessary to capture greater project detail to inform design and engagement.

Project Area Description

Limits	
Street Typology/Typologies	
Primary Land Use(s)	
Secondary Land Use(s) - Optional	
Existing Cross Section	
Transit Routes	
Existing Bicycle Facilities	
Existing Pedestrian Facilities	
Intersection Control	
Posted Speed Limit/Target Speed for applicable Street Typology	
Key Destinations/Assets	
High Injury Network	
Known Project Constraints	

Utility Information

Date utility information requested *(only applies to projects with anticipated utility impacts)*	

Site Visit Observations:

Based on site walk or bike ride, document key takeaways for future scoping and design consideration, for site walk considerations see page 3-17 of the Handbook	

2.2 Project Introduction and Existing Conditions Meeting

For more information on the objectives and tips for this meeting, see page 3-18 of the Handbook

List internal stakeholders and relevant external agencies that should be contacted early in the process and kept abreast of developments with the project through project development	
Date of Project Introduction and Existing Conditions Meeting(s) or correspondence	
Based on meeting feedback, note projects, known conflicts, past planning studies, additional stakeholders, key community contacts, or other information that should be incorporated into the project development process	

2.3 Data Collection for Scoping and Evaluation

Collect data and complete the following table, at minimum. Additional data collection and observations may be needed to evaluate need for improvements and/or feasibility. For more information see page 3-18 of the Handbook.

		Date	Value
Volumes (representative weekday)	Average Daily Traffic*		
	Large Vehicle Traffic*		
	Pedestrians*		
	Bicyclists*		
	Bus boardings and alightings *(contact MCTS)*		
Safety	Total Crashes *(contact Multimodal for assistance if needed)*		
	Total Fatalities (K)		
	Total Serious Injuries (A)		
	Pedestrian Crashes		
	Bicyclist Crashes		
	Pedestrian and Bicyclist Fatalities (K)		
	Pedestrian and Bicyclist Serious Injuries (A)		
	50th Percentile Speed		
	Percent Above Limit		
	Percent 10MPH or Greater Above Posted Limit		
Access	Pedestrian Signal Actuation		

** may be reported as peak volumes at crossings/turning movements at representative intersection if screenline counts not performed*

Observations

Note any additional observations, additional data points collected, or qualitative surveys conducted for the project	

2.4 Document Initial Project Goals

Besides DPW's citywide goals to Increase Walkability and Decrease Motor Vehicle Speeds, what other project goals rise to the top because of Existing Conditions and Data Analysis?	

2.5 Existing Conditions Memo

Where required, provide link to memo (find template in the Handbook Appendix)	

Step 3: Community Engagement Plan

3.1 Community Engagement Goals

Demographic Snapshot (using abutting Census Tracts, data can be queried at data.census.gov, for assistance, contact the Multimodal Unit)

Statistic	Count	Percent	Citywide
Population			577,222
Number of Households			229,470
Workers 16 years and over			368,845
Population non-white alone and/or Hispanic			66.1%
Population under 18			25%
Population 65+			11.5%
Population with a disability			12.5%
Median Household Income (range)			$45,318
Households with no vehicles available			16.5%
Workers who commute by walking, biking, or taking transit			10.6%
Limited English-speaking households			4.3%
Renter-occupied housing units			58.7%
Census tracts identified as underserved			

Project Engagement Goals	

Select one Participation Goal based on definitions found on pg. 3-27 of the Handbook

3.2-3.4 Engagement Timeline and Strategies, Document Lessons Learned

Provide link to Community Engagement Plan (find template in the Handbook Appendix)	

Step 4: Community Engagement 1 – Project Introduction, Existing Conditions, and Goals

4.1 Publicize Engagement Opportunity

Describe how engagement will be marketed	

4.2 Conduct Engagement

Engagement date(s)	
High-level takeaways relevant to development of project goals and alternatives	

4.3 Report Engagement Summary Back to the Community

Date of engagement summary distribution	
Link to engagement summary	

Step 5: Project Goals

5.1 Document Project Goals

Complete the Project Goals table. For more on developing goals see Handbook pg. 3-41

Goal Type	Project Goal	How the project might address
Citywide Design Goals	Increase Walkability	
	Decrease Motor Vehicle Speeds	
Project Specific and/or Community Goal(s)		

5.2 Update Project Schedule

Document updates to project schedule based on adopted project goals	

Conceptualization

With the project goals and scope defined, the project manager can select and evaluate the elements necessary to create a Complete Street that safely accommodates all users and meets other City and community goals. During Conceptualization, close coordination across units within DPW and with external stakeholders begins to identify engineering constraints and opportunities and to determine options for balancing trade-offs in line with Milwaukee's priorities and values. For many projects, alternatives are presented to the public and vetted to develop a preferred alternative to progress to final engineering. Conceptualization include the activities found in the WisDOT FDM Project Definition phase.

Step 6: Identification of Design Elements

6.1 – 6.2 Initial Design Elements and Alignment with Citywide Design Priorities

Identify project design elements (consult Chapter 4, Section 5 – Street Typologies for the appropriate Street Typology; and Section 4 – Street Realms for more information).

List the design elements that might meet the Citywide Design Priorities for each applicable street realm in Chapter 4 in the Citywide Design Priorities Matrix below. **All projects shall include design elements that meet at least one design objective for "Increase Walkability" and "Decrease Motor Vehicle Speeds," at minimum.**

Sidewalk Realm

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
Increase Walkability	Safe, continuous, and accessible sidewalks (e.g., *If there are gaps like a lack of sidewalks, ADA issues in network, how does the project address?)*	
	Design streets from the outside-in *(e.g., if there is insufficient space for pedestrians, how does project address?)*	
	Minimize or eliminate conflicts with motor vehicles (e.g., reduce conflicts or grade changes with driveways, curb cuts, side street crossings, dive-ins, loading, etc.)	
Decrease Motor Vehicle Speeds	Visual Narrowing (e.g., how does the project widen the sidewalk to narrow the roadway?)	
Access for All Ages and Abilities	ADA and PROWAG compliance (e.g., Type 2 ramps, bus stops, accessible signals, sidewalk widths, increased connectivity)	
	Raised Bikeways (e.g., if proposed/present, do separated bikeways clearly delineate walking and biking space?)	

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
Safety before Convenience	Lighting (e.g., does the project address pedestrian-scale lighting?)	
	Visibility (e.g., does the project address sight line issues?)	
	Buffering (e.g., how does the project increase buffering of sidewalk from traffic?)	
Streets as Active Public Spaces	24-hour design (e.g., how does the project improve sidewalk use across all hours of the day?)	
	Comfort (e.g., how does the project increase shade and/or street furnishings?)	
Connections between Modes	Access (e.g., are transit stops located at the most convenient/efficient locations? Can they be made larger and better furnished?)	
	Mobility Parking (e.g., how does the project increase mobility parking like bike share and e-scooters?)	

Roadway Realm

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
Increase Walkability	Allocating Space (e.g., is space reallocated to increase pedestrian comfort and/or accessibility?)	
Decrease Motor Vehicle Speeds	Target Speed (e.g., how does the project encourage drivers to travel at target speeds applicable to the identified street typology/typologies?)	
	Lane Widths (e.g., how are lane widths brought to City's preferred 10' width?)	
	Turning Speeds (e.g., how does the project control speeds into and through turns?)	

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
Access for All Ages and Abilities	Low-stress Facilities (e.g., do added bike facilities decrease bicycle level of traffic stress?)	
	Prioritize Transit (e.g., does the project improve transit operations by adding transit only lanes, bus bulbs, in lane stops, queue jumps, etc.?)	
	Curb Access (e.g., how is access between loading and parking areas to the sidewalk improved? Is accessible parking available in accordance with PROWAG?)	
Safety Before Convenience	Right-sizing (e.g., what opportunities were taken to reduce through lanes and reallocate space to other modes?)	
	Lighting (e.g., is there a sufficient level of street lighting so that all users are visible to each other?)	

Intersection Realm

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
Increase Walkability	Compactness (e.g., how does the project redistribute extraneous space at intersection? Can curb radii be reduced? Can corners be rebuilt as curb extensions to/)	
	Desire Lines (e.g., how does the project accommodate crossings between key destinations?)	
	Signal Timing (e.g., how does the project reduce pedestrian delay, conflicts with vehicles, and/or crossing times?)	
Decrease Motor Vehicle Speeds	Signal Timing (e.g., how do changes to signal timing reduce speeding?)	

Citywide Design Policy	Design Objective	Which Design Element Addresses the Design Objective?
	Turning Speeds (e.g., how does the project modify geometry to reduce turning speeds?)	
Access for All Ages and Abilities	Curb Ramps (e.g., how does the project increase ADA compliance, Type II ramps/directionality, or room for queuing pedestrians?)	
	Connectivity (e.g., does the project connect low stress facilities through intersections?)	
Safety Before Convenience	Reduce Conflicts (e.g., how does signal phasing reduce conflicts between users? Where present, does the project eliminate slip lanes?)	
	Lighting and Visibility (e.g., how does the project increase lighting and pedestrian visibility at crossings?)	
	Expect Pedestrians (e.g., do traffic signals have fixed pedestrian cycles? Do timings have a maximum crossing pace of 3.5'/sec? Are LPI installed?)	

6.3 Assess Opportunities

If any of the above design priorities could not be met (by fulfilling one or more objectives in one or more Realm), explain	
Note which design elements might need additional consideration/coordination based on site, ownership/jurisdiction, processing, funding, or other constraints	

Step 7: Alternatives Development

7.1 Develop Alternatives

Using the Design Elements identified in Step 6, develop **at least two**, but no more than **three** alternative typical cross-sections that respond to project scope, particularly project goals and Citywide Design Priorities. "No Build" or "Maintain Existing" are not considered as one of the two to three alternatives.

Alternative 1 - Summary	
Alternative 2 - Summary	
Alternative 3 - Summary	

7.2 Analyze Alternatives

For each alternative, note the primary benefits and potential issues to address during agency / stakeholder coordination and additional data collection (where necessary) associated with each:

Alternatives	Benefits	Trade-offs	Potential Issues for Coordination
Alternative 1			
Alternative 2			
Alternative 3			

7.3 Evaluate Alternatives

For each alternative developed, assess against the goals defined in Step 5 – Design Goals **in the form of "yes," "no," or "partial."** Note, all alternatives could meet all goals.

Goal Type	Design Goal	Alt 1	Alt 2	Alt 3
Citywide Design Goals	Increase Walkability			
	Decrease Motor Vehicle Speeds			
Project and Community Specific Goal(s)				

7.4 Develop Visualizations

Provide link to conceptual visualizations of each alternative	

Step 8: External Agency Coordination

Date of Draft Alternatives Meeting	
Agencies attending Draft Alternatives Meeting	
Key takeaways	
Link to Draft Alternatives Meeting notes:	

Step 9: Community Engagement 2 – Alternatives Presentation

9.1 Publicize Engagement Opportunity

Describe how engagement will be marketed	

9.2 Conduct Engagement

Engagement date(s)	
High-level takeaways relevant to selection of preferred alternative	

9.3 Coordinate Preferred Alternative

Based on results from engagement activities, identify any stakeholders for additional follow-up	
Note whether community engagement resulted in any significantly different alternative(s)	
Document additional coordination performed to confirm preferred alternative	

9.4 Preferred Alternative Selection

Describe how the preferred alternative meets project goals, (see Step 5.3), how community engagement impacted selection, and why the other alternatives were deferred	

9.5 Report Engagement Summary Back to Community

Date of engagement summary distribution and notification of preferred alternative	
Link to engagement summary	

Design

Once the preferred design has been coordinated with the community and relevant stakeholders in the Initiation and Conceptualization phases it is ready to enter the design phase. Over the course of design, the conceptual design is verified through preliminary engineering and final community engagement, after which a final design package is created to permit and construct the project. Design includes the activities in the latter half of the WisDOT Facilities Development Process Project Delivery phase.

Step 10: Preliminary Design (30%)

10.1 Coordinate Utilities

Identified utility impacts	
Date coordination with utilities started	

10.2 Validate Preferred Alternative

Known constraints and design coordination needs	
Additional data collection/observation needs	
Known Design Exceptions/Variances	

10.3 Conduct Preliminary Design

Design Review Meeting date	
Link to disposition of comments and resolutions	
Note any change(s) to design that may constitute a deviation from preferred alternative	
Link to 30% plans	

10.4 Submit Environmental Document

Link to Environmental Document(s)	
Date Environmental Document submitted	
Date Environmental Document approved	

Step 11: Construction Engagement Planning

11.1 Identify Construction Impacts

Is project located on a Commercial Corridor?	
Document anticipated impacts to businesses and proposed mitigation strategies	
Document anticipated impacts to transit and bikeshare stations and proposed mitigation strategies	
Document anticipated impacts to curb ramps, sidewalks, and bike facilities and proposed mitigation strategies to ensure ADA compliance (see Chapter 5, Construction Mitigation)	
Document anticipated impacts to loading, parking, and access and proposed mitigation strategies	
Document potential for displacement through business closures	

11.2 Identify Construction Engagement Team

Construction Liaison	
Project Inspector	
Construction Supervisor	
ADA Coordinator	
WisDOT Personnel (if applicable)	
DCD Liaison (if applicable)	

11.3 Update Community Engagement Plan

Has the CEP been updated with construction engagement plan?	
Date meeting held with Construction Engagement Team	

Step 12: Community Engagement 3 - Preferred Alternative

12.1 Publicize Engagement Opportunity

Describe how engagement will be marketed	

12.2 Conduct Engagement

Engagement date(s)	
High-level takeaways relevant to preferred alternative refinement	

12.3 Report Engagement Summary Back to Community

Date of engagement summary distribution and notification of final design	
Link to engagement summary	

Step 13: Detailed Design (60-90%)

13.1 Develop Transportation Management Plan

Note any deviations from preferred mitigation measure per DPW Temporary Traffic Control Policy found in Chapter 5	
Approval by Construction Division	

13.2 Conduct 60% Design

List reviewers	
Link to disposition of comments and resolutions	

Note any change(s) to design that may constitute a deviation from preferred alternative	
Link to 60% Plans, Specs, and Estimates	

13.3 Coordinate Utilities

Date Utility Coordination completed	

13.4 Develop Design Study Report

Date DSR submitted to WisDOT	
Date DSR approved	
Note any Design Justifications	
Required Approver (state/fed funds)	
Date Design Justifications approved	

13.5 Conduct 90% Design

List reviewers	
Link to disposition of comments and resolutions	
Note any change(s) to design that may constitute a deviation from preferred alternative	
Link to 90% Plans, Specs, and Estimates	

Step 14: ROW Acquisition

ROW acquisition should only be considered in very limited cases, see page 3-70 of the Handbook for more information.

14.1 Consider Mitigation

Purpose of ROW acquisition	
Potential modifications to scope or alternatives to mitigate acquisition needs	

14.2 Conduct Acquisition

Anticipated date of closing	
Date WisDOT ROW Certification received	

Step 15: Final Design (100%, Plans, Specs, and Estimates)

15.1 Submit PSEs

Date approved for letting	
Link to stamped PSEs	
Link to Civil 3D files	
Letting date	

Letting

Date construction funding approved by Council	
Winning bidder	
Bid amount	
Bid % of Engineer's Estimate	
Anticipated construction start	
Date WisDOT Project Complete Certificate submitted	

Step 16: Project Evaluation

16.1 Lessons Learned

Link to finalized CEP, including engagement lessons learned?	
High-level lessons learned during project delivery	

16.2 After Data Collection

Link to completed Before/After data evaluation template	