



625 Burnell Street
Napa, CA 94559

Agenda - Final

Thursday, October 1, 2020

2:00 PM

MEETING LOCATION: REFER TO COVID-19 SPECIAL NOTICE

NVRTA Technical Advisory Committee (TAC)

******COVID-19 SPECIAL NOTICE******

PUBLIC MEETING GUIDELINES FOR PARTICIPATING VIA PHONE/VIDEO CONFERENCE

Consistent with Executive Orders No. N-25-20 and N-29-20 from the Executive Department of the State of California and Napa County's Shelter in Home Order issued March 18, 2020 and further extended, a physical location will not be provided for the Napa Valley Transportation Authority (NVRTA) Technical Advisory Committee meeting. The public is invited to participate telephonically or electronically via the methods below:

To observe the meeting by video conference, please navigate to <https://zoom.us> and enter the meeting ID 975 4590 0346 at the noticed meeting time.

Instructions on how to join a video conference are available at: <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>.

To observe the meeting by phone, call 1 (669) 900-6833 at the noticed meeting time, then enter Meeting ID 975 4590 0346. When asked for the participant ID or code, press #. Instructions on how to join a meeting by phone are available at: <https://support.zoom.us/hc/en-us/articles/201362663-Joining-a-meeting-by-phone>.

How to Submit a Public Comment

1. Members of the public may submit a public comment in writing by emailing info@nvta.ca.gov by 11 a.m. on the day of the meeting with PUBLIC COMMENT identified in the subject line of the email. For comments to be read into record, emails with the equivalent of a maximum of 3 minutes shall contain in the subject line "Public Comment-Not on the Agenda" or "Public Comment-Agenda Item # (include item number)". All written comments should be 350 words or less, which corresponds to approximately 3 minutes of less of speaking time. All other written comments received will still be provided to the TAC and be included as part of the meeting record.
2. To comment during a virtual meeting (Zoom), click the "Raise Your Hand" button (found in the "Participants" tab) to request to speak when Public Comment is being taken on the Agenda item. You will then be unmuted when it is your turn to make your comment for up to 3 minutes. After the allotted time, you will be re-muted. Instructions for how to "Raise Your Hand" is available in the Attendee Controls information at <https://support.zoom.us/hc/en-us/articles/200941109-Attendee-controls-in-a-meeting>.
3. To comment by phone, press "*9" to request to speak when Public Comment is being taken on the Agenda item. You will be called upon by the last four digits of your phone number and phone participants must unmute themselves by pressing "*6" when called upon and will be provided up to 3 minutes to comment. After your allotted time, you will be re-muted.

This Agenda shall be made available upon request in alternate formats to persons with a disability. Persons requesting a disability-related modification or accommodation should contact Kathy Alexander, NVTA Deputy Board Secretary, at (707) 259-8631 during regular business hours, at least 48 hours prior to the time of the meeting.

Translation Services: If you require a translator to facilitate testimony to the NVTA, please contact Kathy Alexander, NVTA Deputy Board Secretary, at (707) 259-8631 no later than 48 hours in advance of the scheduled meeting.

This Agenda may also be viewed online by visiting the NVTA website <https://nctpa.legistar.com/Calendar.aspx>.

Note: Where times are indicated for agenda items, they are approximate and intended as estimates only, and may be shorter or longer as needed.

Acceso y el Título VI: La NVTA puede proveer asistencia/facilitar la comunicación a las personas discapacitadas y los individuos con conocimiento limitado del inglés quienes quieran dirigirse a la Autoridad. Para solicitar asistencia, por favor llame al número (707) 259-8631. Requerimos que solicite asistencia con tres días hábiles de anticipación para poderle proveer asistencia.

Ang Accessibility at Title VI: Ang NVTA ay nagkakaloob ng mga serbisyo/akomodasyon kung hilingin ang mga ito, ng mga taong may kapansanan at mga indibiduwal na may limitadong kaalaman sa wikang Ingles, na nais na matugunan ang mga bagay-bagay na may kinalaman sa NVTA TAC. Para sa mga tulong sa akomodasyon o pagsasalin-wika, mangyari lang tumawag sa (707) 259-8631. Kakailanganin namin ng paunang abiso na tatlong araw na may pasok sa trabaho para matugunan ang inyong kahilingan.

1. Call To Order
2. Introductions
3. Public Comment
4. Committee Member and Staff Comments

5. STANDING AGENDA ITEMS

- 5.1 County Transportation Agency (CTA) Report (Danielle Schmitz)
- 5.2 Project Monitoring Funding Programs* (Alberto Esqueda)
- 5.3 Caltrans' Report* (Ahmad Rahimi)
- 5.4 Vine Trail Update (Joe Tagliaboschi)
- 5.5 Transit Update (Danielle Schmitz)
- 5.6 Measure T Update (Alberto Esqueda)

Note: Where times are indicated for the agenda items they are approximate and intended as estimates only, and may be shorter or longer, as needed.

6. CONSENT AGENDA

- 6.1 **Meeting Minutes of September 3, 2020 TAC Meeting (Kathy Alexander) (Pages 7-10)**

Recommendation: TAC action will approve the September 3, 2020 meeting minutes.

Estimated Time: 2:20 p.m.

Attachments: [Draft Minutes.pdf](#)

7. REGULAR AGENDA ITEMS

- 7.1 **NVTA Travel Model Update (Alberto Esqueda) (Pages 11-12)**

Body: The TAC will receive an update on the TJKM consultant agreement to develop the VMT model in response to SB 743.

Recommendation: Information only.

Estimated Time: 2:20 p.m.

Attachments: [Staff Report.pdf](#)

7.2 Countywide Transportation Plan: Advancing Mobility 2045 Project List Update (Alberto Esqueda) (Pages 13-20)

Recommendation: The TAC will receive an update on the Countywide Transportation Plan Project: Advancing Mobility 2045 List. Information only.

Estimated Time: 2:40 p.m.

Attachments: [Staff Report.pdf](#)

7.3 Quick Build Program (Diana Meehan) (Pages 14-50)

Recommendation: The TAC will receive an overview of the Quick Build Program.

Estimated Time: 2:50 p.m.

Attachments: [Staff Report.pdf](#)

7.4 Legislative Update* (Kate Miller)

Recommendation: Information only. Staff will review the state and federal legislative updates.

Estimated Time: 3:00 p.m.

7.5 October 21, 2020 NVTA Board Meeting and NVTA-TA Board Meeting Draft Agendas* (Kate Miller)

Body: Information only. Staff will review the October 21, 2020 NVTA Board and NVTA-TA Board meeting draft agendas.

Estimated Time: 3:05 p.m.

8. FUTURE AGENDA ITEMS

9. ADJOURNMENT

9.1 Approval of Next Regular Meeting Date of November 5, 2020 and Adjournment.

I, Kathy Alexander, hereby certify that the agenda for the above stated meeting was posted at a location freely accessible to members of the public at the NVTA offices, 625 Burnell Street, Napa, CA by 5:00 p.m., on Thursday, September 24, 2020.

Kathy Alexander (e-sign) September 24, 2020

Kathy Alexander, Deputy Board Secretary

*Information will be available at the meeting

Glossary of Acronyms

AB 32	Global Warming Solutions Act	GGRF	Greenhouse Gas Reduction Fund
ABAG	Association of Bay Area Governments	GTFS	General Transit Feed Specification
ADA	American with Disabilities Act	HBP	Highway Bridge Program
ATAC	Active Transportation Advisory Committee	HBRR	Highway Bridge Replacement and Rehabilitation Program
ATP	Active Transportation Program	HIP	Housing Incentive Program
BAAQMD	Bay Area Air Quality Management District	HOT	High Occupancy Toll
BART	Bay Area Rapid Transit District	HOV	High Occupancy Vehicle
BATA	Bay Area Toll Authority	HR3	High Risk Rural Roads
BRT	Bus Rapid Transit	HSIP	Highway Safety Improvement Program
BUILD	Better Utilizing Investments to Leverage Development	HTF	Highway Trust Fund
CAC	Citizen Advisory Committee	HUTA	Highway Users Tax Account
CAP	Climate Action Plan	IFB	Invitation for Bid
Caltrans	California Department of Transportation	ITIP	State Interregional Transportation Improvement Program
CASA	Committee to House the Bay Area	ITOC	Independent Taxpayer Oversight Committee
CEQA	California Environmental Quality Act	IS/MND	Initial Study/Mitigated Negative Declaration
CIP	Capital Investment Program	JARC	Job Access and Reverse Commute
CMA	Congestion Management Agency	LCTOP	Low Carbon Transit Operations Program
CMAQ	Congestion Mitigation and Air Quality Improvement Program	LIFT	Low-Income Flexible Transportation
CMP	Congestion Management Program	LOS	Level of Service
CalSTA	California State Transportation Agency	LS&R	Local Streets & Roads
CTP	Countywide Transportation Plan	MaaS	Mobility as a Service
COC	Communities of Concern	MAP 21	Moving Ahead for Progress in the 21 st Century Act
CTC	California Transportation Commission	MPO	Metropolitan Planning Organization
DAA	Design Alternative Analyst	MTC	Metropolitan Transportation Commission
DBB	Design-Bid-Build	MTS	Metropolitan Transportation System
DBF	Design-Build-Finance	ND	Negative Declaration
DBFOM	Design-Build-Finance-Operate-Maintain	NEPA	National Environmental Policy Act
DED	Draft Environmental Document	NOAH	Natural Occurring Affordable Housing
EIR	Environmental Impact Report	NOC	Notice of Completion
EJ	Environmental Justice	NOD	Notice of Determination
FAS	Federal Aid Secondary	NOP	Notice of Preparation
FAST	Fixing America's Surface Transportation Act	NVTA	Napa Valley Transportation Authority
FHWA	Federal Highway Administration	NVTA-TA	Napa Valley Transportation Authority-Tax Agency
FTA	Federal Transit Administration	OBAG	One Bay Area Grant
FY	Fiscal Year	PA&ED	Project Approval Environmental Document
GHG	Greenhouse Gas		

Glossary of Acronyms

P3 or PPP	Public-Private Partnership	SOV	Single-Occupant Vehicle
PCC	Paratransit Coordination Council	STA	State Transit Assistance
PCI	Pavement Condition Index	STIC	Small Transit Intensive Cities
PCA	Priority Conservation Area	STIP	State Transportation Improvement Program
PDA	Priority Development Areas	STP	Surface Transportation Program
PIR	Project Initiation Report	TAC	Technical Advisory Committee
PMS	Pavement Management System	TCM	Transportation Control Measure
Prop. 42	Statewide Initiative that requires a portion of gasoline sales tax revenues be designated to transportation purposes	TCRCP	Traffic Congestion Relief Program
PSE	Plans, Specifications and Estimates	TDA	Transportation Development Act
PSR	Project Study Report	TDM	Transportation Demand Management Transportation Demand Model
PTA	Public Transportation Account	TE	Transportation Enhancement
RACC	Regional Agency Coordinating Committee	TEA	Transportation Enhancement Activities
RFP	Request for Proposal	TEA 21	Transportation Equity Act for the 21 st Century
RFQ	Request for Qualifications	TFCA	Transportation Fund for Clean Air
RHNA	Regional Housing Needs Allocation	TIGER	Transportation Investments Generation Economic Recovery
RM2	Regional Measure 2 (Bridge Toll)	TIP	Transportation Improvement Program
RM3	Regional Measure 3	TIRCP	Transit and Intercity Rail Capital Program
RMRP	Road Maintenance and Rehabilitation Program	TLC	Transportation for Livable Communities
ROW	Right of Way	TLU	Transportation and Land Use
RTEP	Regional Transit Expansion Program	TMP	Traffic Management Plan
RTIP	Regional Transportation Improvement Program	TMS	Transportation Management System
RTP	Regional Transportation Plan	TNC	Transportation Network Companies
SAFE	Service Authority for Freeways and Expressways	TOAH	Transit Oriented Affordable Housing
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act-A Legacy for Users	TOD	Transit-Oriented Development
SB 375	Sustainable Communities and Climate Protection Act 2008	TOS	Transportation Operations Systems
SB 1	The Road Repair and Accountability Act of 2017	TPA	Transit Priority Area
SCS	Sustainable Community Strategy	TPI	Transit Performance Initiative
SHA	State Highway Account	TPP	Transit Priority Project Areas
SHOPP	State Highway Operation and Protection Program	VHD	Vehicle Hours of Delay
SNTDM	Solano Napa Travel Demand Model	VMT	Vehicle Miles Traveled
SR	State Route		
SRTS	Safe Routes to School		

Napa Valley Transportation Authority

625 Burnell Street
Napa, CA 94559

October 1, 2020
TAC Agenda Item 6.1
Continued From: New
Action Requested: Approve

Meeting Minutes - Draft Technical Advisory Committee

Thursday, September 3, 2020

2:00 PM MEETING LOCATION: REFER TO COVID-19 SPECIAL NOTICE

1. Call To Order

Chair Arias called the meeting to order at 2:02 p.m.

2. Introductions

3. Public Comment

No public comment was received.

4. Committee Member and Staff Comments

No committee member or staff comments were provided.

5. STANDING AGENDA ITEMS

5.1 County Transportation Agency (CTA) Report (Danielle Schmitz)

Report by Danielle Schmitz.

Ms. Schmitz noted that the Bay Area County Transportation Agency (BACTA) Executive Directors did not meet in August, however, she provided updates on the following:

- Caltrans released its Draft California Transportation Plan 2050 that includes a list of objectives for comment. Ms. Schmitz will forward it to the TAC members. Comments are due October 22, 2020.
- The Bay Area Planning Directors will be holding a round table on Safe Routes to Schools and Travel Demand Management strategies and approaches in a post COVID 19 environment.
- The potential impacts Executive Order N-19-19 may have on fund sources, specifically funds used to match sales tax revenues such as SB 1 funds.
- The Metropolitan Transportation Commission (MTC) formed a committee to determine how Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs) have influenced land use development. The committee's findings may influence One Bay Area Grant Cycle 3 (OBAG 3) appropriations. NVTa staff will keep the TAC informed of this work.

5.2 Project Monitoring Funding Programs (Alberto Esqueda)

Alberto Esqueda reviewed the Caltrans Inactive Project Monitoring spreadsheet.

5.3 Caltrans' Report (Ahmad Rahimi)

No report - Ahmad Rahimi was unable to attend the meeting.

5.4 Vine Trail Update (Joe Tagliaboschi)

Update provided by Sanjay Mishra.

The NVTA Board approved the California Environmental Quality Act (CEQA) Mitigated Negative Declaration and adopted the Mitigation Monitoring and Reporting Program on August 19, 2020.

The 90% design plans were submitted to Caltrans, County of Napa, City of Calistoga and City of St. Helena for review and comment; most comments have been received and responses will be provided shortly.

5.5 Transit Update (Alan Budde)

Report will be provided under Item 7.3.

5.6 Measure T Update (Alberto Esqueda)

Report by Alberto Esqueda.

The September 2, 2020 Independent Taxpayer Oversight Committee (ITOC) meeting was canceled. The County of Napa will provide their presentation at the next ITOC meeting.

Mr. Esqueda reminded the jurisdictions of the importance to post signs at all Measure T funded projects.

6. CONSENT AGENDA

6.1 Meeting Minutes of July 9, 2020 TAC Meeting (Kathy Alexander) *(Pages 8-11)*

MOTION by RAYNER, SECOND by KAUFMAN to APPROVE the July 9, 2020 Technical Advisory Committee Meeting Minutes as presented.

Motion passed with the following vote:

Ayes: Chair Arias, Vice Chair Kaufman, Member Ahmann Smithies, Member Clark, Member Gordon, Member Lederer, Member Weir, Member Rayner.

Nays: None.

7. REGULAR AGENDA ITEMS

7.1 Metropolitan Transportation Commission (MTC) Plan Bay Area 2050 Update(Raleigh McCoy, MTC Staff) *(Pages 12-17)*

Raleigh McCoy with MTC provided a presentation on the Draft Plan Bay Area Blueprint that included an overview of the economic, housing, environmental, and equity strategies, and a focused look at the transportation strategies projects and policies.

Ms. McCoy also provided a high-level overview of what will be proposed for the final draft Blueprint which will be studied later this year.

Chair Arias requested more details on the strategy for reducing speed limits, noting the current practice of using the 85 percentile speed to implement.

Ms. McCoy responded that implementation plan calls for collaboration among Caltrans, local jurisdictions and relevant partners to determine speed limits.

Chair Arias noted that the plan addresses seismic events and sea level rise and asked if addressing wildfires would be included in the plan as they are becoming more prevalent.

Ms. McCoy thought wildfires may be considered in the regional growth framework by discouraging new developments in high wildfire risk zones, and added that more work needs to be done on wildfire resilience and response.

Danielle Schmitz requested more information on how the Regional Housing Needs Allocation (RHNA) is integrated into the Blueprint.

Bobby Lu, MTC, provided an update on the Housing Methodology Committee's (HMC's) process for incorporating the Blueprint's targets with the RHNA targets noting the HMC will finish up their methodology in September and present it to the Association of Bay Area Governments (ABAG) in October. Following ABAG approval, it will be released for comment.

Ms. Schmitz requested an update on the request to the California Air Resources Board (CARB) to increase the assumptions on telecommuting and/or active transportation baselines for the Blueprint.

Ms. McCoy reported that MTC staff are currently working with CARB to adjust the telecommute assumptions.

7.2 Lifeline Transportation Program Cycle 6 Update (Diana Meehan) (Pages 18-21)

Report by Diana Meehan.

Ms. Meehan provided a brief overview on the Lifeline Transportation Program Cycle 6, reported on the letters of interest received and reviewed the projects recommended for funding. There is \$156,657 available in funds.

Staff is recommending programming \$94,000 to the City of St. Helena for its Pope Street Crossing project, and \$62,657 to the City of Calistoga for its Riverside Path Project.

There were no questions or comments from the TAC.

MOTION by WEIR, **SECOND** by LUCIDO to recommend the NVTA Board approve the Lifeline Cycle 6 Program of Projects. Motion passed unanimously with the following vote:

Ayes: Chair Arias, Vice Chair Kaufman, Member Ahmann Smithies, Member Clark, Member Gordon, Member Lederer, Member Weir, Member Rayner.

Nays: None.

7.3 Vine Transit Update (Alan Budde) (Pages 22-27)

Alan Budde provided a report on the Vine Transit services operations for the third and fourth quarter of Fiscal Year 2019-20 as well as the latest changes to the service in response to COVID-19, including the resumption of Vine fare collection on September 13, 2020.

7.4 Legislative Update (Kate Miller)

Kate Miller provided a review of the Legislative Update.

7.5 September 16, 2020 NVTA Board Meeting and NVTA-TA Board Meeting Draft Agendas* (Kate Miller)

Kate Miller reviewed the September 16, 2020 NVTA Board Meeting Draft Agenda.

Chair Arias asked about the next steps for developing the Imola Corridor Plan after the NVTA Board approves the plan.

Ms. Miller responded that funding needs to be identified noting that staff is applying for active transportation through Caltrans' State Highway Operation and Protection Program (SHOPP) for some Quick Build projects. Additionally, an environmental document should be completed soon as it would be helpful when applying for funding.

Ms. Miller suggested the Imola Corridor working group meet quarterly to check in on projects and available funds.

Diana Meehan noted she will work on a project initiation document (PID) for the Caltrans SHOPP active transportation funds and will be asking the stakeholder for letters of support. Potential funding sources may include Highway Safety Improvement Program (HSIP) Cycle 11, Active Transportation Cycle 6, and STC funds.

8. FUTURE AGENDA ITEMS

No future agenda items were requested.

9. ADJOURNMENT**9.1 Approval of Next Regular Meeting Date of October 1, 2020 and Adjournment.**

Chair Arias adjourned the meeting at 3:02 p.m.



NAPA VALLEY TRANSPORTATION AUTHORITY TAC Agenda Letter

TO: Technical Advisory Committee
FROM: Kate Miller, Executive Director
REPORT BY: Alberto Esqueda, Senior Program
Planner/Administrator
(707) 259-5976 / Email: aesqueda@nvta.ca.gov
SUBJECT: NVTA Travel Model Update

RECOMMENDATION

Information only

EXECUTIVE SUMMARY

Napa Valley Transportation Authority (NVTA) contracted with TJKM and Resource Systems Group (RSG) Inc. to update the Napa Activity Model to make the model structure consistent with the Metropolitan Transportation Commission's (MTC's) Travel Model 1.5. This model includes a number of enhancements including a new population synthesis software, inclusion of transportation network companies (TNCs) and autonomous vehicles (this is an optional feature that can be turned on if desired) and better calibration to perform public transit forecasts. The model upgrades will provide reliable transit and highway forecasts for the next several years until the time MTC updates its model to version 2.0.

FINANCIAL IMPACT

Is there a fiscal impact? No

BACKGROUND AND DISCUSSION

An activity-based travel model is an analysis tool that NVTA uses to make informed decisions on how the transportation system will perform in the future. Travel models support decision making by providing projections about the impacts of capital investments, alternative transportation, land use investments and policies, as well as demographic and economic trends. Travel models produce quantitative information about travel demand and transportation system performance that can be used to evaluate project and plan alternatives.

The Napa Activity-Based Model was developed as a version of the Metropolitan Transportation Commission's (MTC's) Travel Model One. Cambridge Systematics updated the base year of the model to 2015 conditions in 2015-16. Subsequently, TJKM updated the Peak Hour model validation. However, the model was not calibrated or validated to provide public transit ridership forecasts. The 2015-16 update to the model used MTC's 2013 Plan Bay Area (PBA) Regional Transportation Plan (RTP) land use forecasts. To maintain a relevant model, TJKM has updated the model to use the latest PBA 2040 RTP land use data and to incorporate public transit.

The previous version of the Napa Model used a 15% sample rate, which is not a technically sound approach as it can result in under or over prediction of mode split and travel in certain corridors. TJKM's experience implementing the model for Marin County has informed how to improve the sample rate in Napa, Solano and neighboring counties and adjusted it to reduce the influence of zones farther away from the county. The upgrades results in the model using more local data samples to estimate forecasts. It is expected that this methodology will better simulate travel in Napa/Solano Counties and improve transit and highway modal validation. The new population synthesis software also allows the user to make changes to specific zones impacted by a project and keep other data constant, which will produce more stable results for project impact studies.

The travel model update also generated data to gauge performance metrics for the Countywide Transportation Plan (CTP). The updated CTP, *Advancing Mobility 2045*, includes performance metrics tied to Board adopted goals and objectives and the model assisted in measuring systemwide performance.

SUPPORTING DOCUMENTS

None – TKJM will make a presentation at the meeting



NAPA VALLEY TRANSPORTATION AUTHORITY

TAC Agenda Letter

TO: Technical Advisory Committee
FROM: Kate Miller, Executive Director
REPORT BY: Alberto Esqueda, Senior Program Planner/Administrator
(707) 259-5976 / Email: aesqueda@nvta.ca.gov
SUBJECT: Countywide Transportation Plan: *Advancing Mobility 2045*

RECOMMENDATION

Information only

EXECUTIVE SUMMARY

Napa Valley Transportation Authority (NVTA) staff has assessed jurisdictions' Countywide Transportation Plan (CTP) projects. Staff took a qualitative approach in the project review which focused on how well projects support the Plan's goals, objectives and vision. A summary of the projects' assessments are provided in Attachment 1.

BACKGROUND AND DISCUSSION

The Metropolitan Transportation Commission (MTC) interagency agreement with NVTA requires NVTA to develop a 25-year long-range CTP to support regional planning and programming efforts and to prioritize local projects. This effort informs MTC's Regional Transportation Plan and the Sustainable Communities Strategy (RTP/SCS) which are updated every four years. NVTA last updated its CTP in 2015 which was used to inform Plan Bay Area 2040, the Metropolitan Transportation Commission's long-range plan adopted in 2017.

The new Countywide Transportation Plan – *Advancing Mobility 2045*, will be completed before the next regional transportation plan. *Advancing Mobility 2045* is scheduled for adoption by the NVTA Board in 2021. As part of the RTP efforts, MTC solicits projects for inclusion in the Regional Transportation Plan.

For the current RTP and CTP process, projects were submitted by jurisdictions, and the project list was presented to the TAC in November 2019. The project evaluation criteria

was developed by taking the plan's six goals and all the objectives under each goal adapting them into screening criteria to assess each project. The analysis was conducted by NVTA staff with expertise in various areas. Final scores were developed by averaging all the evaluators' scores. The purpose of this exercise was to assess how the jurisdictions' projects conform to the Plan's goals. This exercise does not prioritize projects, but it allows NVTA staff to understand which goals are being met by jurisdictions through their project priorities.

The next step is to develop an investment strategy where NVTA will analyze and compile a comprehensive list of funding sources, the amount of funds it anticipates to receive from each source over the next 25 years and allocate the funds to the projects proposed in the plan.

SUPPORTING DOCUMENTS

- (1) CTP 2045 Project List

TABLE 3. PROJECT DETAILS AND EVALUATION

PROJECT NUMBER	JURISDICTION	PROJECT TITLE	PROJECT DESCRIPTION	COST ESTIMATE	MODE	PROJECT EVALUATION (RELEVANCE TO PLAN GOALS)					
						EQUITY	SAFETY	CONGESTION RELIEF	ECONOMIC SUSTAINABILITY	SUSTAINABILITY	MAINTENANCE & PRESERVATION
1	American Canyon	Rio Del Mar	New major collector from SR 29 to extension of Newell Drive with railroad undercrossing	\$4,000,000	Auto	⬆️	⊖	⊖	⬆️	⬆️	⊖
2	American Canyon	Eucalyptus Drive/Theresa Avenue intersection, Complete Streets	Extend Eucalyptus 450 feet to the east, connecting at SR 29; install roundabout	\$3,700,000	Auto	⬆️	⬆️	⊖	⬆️	⬆️	⊖
3	American Canyon	Main Street	New minor collector from Eucalyptus to South Napa Junction	\$2,000,000	Auto	⬆️	⊖	⬆️	⊖	⬆️	⊖
4	American Canyon	Eucalyptus Drive	Widen to two-lane collector from Theresa to Wetlands Edge Road	\$7,000,000	Auto	⬆️	⊖	⊖	⊖	⊖	⬆️
5	American Canyon	American Canyon Multimodal Transit Center	Construct transit center		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
6	American Canyon	Highway 29 Pedestrian Safety Overcrossings	Construct three pedestrian crossings over Highway 29	\$5,000,000	Multimodal	⬆️	⬆️	⊖	⊖	⬆️	⊖
7	American Canyon	West Side Connector	New industrial collector from southern terminus of Commerce Drive to Eucalyptus Drive	\$15,000,000	Auto	⊖	⬆️	⊖	⬆️	⊖	⊖
8	American Canyon	Newell Drive	New four-lane arterial from Donaldson Way to Rio Del Mar; new two-lane arterial from Rio Del Mar to SR 29; new two-lane arterial to South Kelly Road; railroad overcrossing structure	\$50,000,000	Auto	⬆️	⊖	⊖	⬆️	⊖	⊖
9	American Canyon	Paoli Loop Road Widening	Widen road from Green Island to Newell Extension to industrial collector standards	\$9,000,000	Auto	⬆️	⬆️	⊖	⬆️	⊖	⬆️
10	American Canyon	Green Island Road Widening & Reconstruction	Widen road from SR 29 to Commerce Boulevard to industrial collector standards; widen railroad crossing to three lanes		Auto	⬆️	⬆️	⊖	⬆️	⬆️	⬆️
11	American Canyon	Highway 29/South Kelly Road Intersection	Improve intersection safety and operations at South Kelly Road		Auto	⊖	⬆️	⬆️	⬆️	⊖	⊖
12	American Canyon	Napa Junction Road Intersection	Add second excl. EBL and excl. EBR; traffic signal relocation		Auto	⊖	⬆️	⬆️	⬆️	⊖	⊖
13	Calistoga	LSR Rehab	Lake Street reconstruction and complete street enhancements		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
14	Calistoga	Intersection Improvements at SR 29/128 & Lincoln Avenue	Signalization of intersection at SR 29/128 & Lincoln Avenue	\$5,500,000	Auto	⬆️	⬆️	⬆️	⬆️	⊖	⊖
15	Calistoga	Pedestrian Safety Improvements at SR 29 & Cedar Street	In-pavement lighting		Bike/Ped	⬆️	⬆️	⬆️	⊖	⬆️	⊖
16	Calistoga	Pedestrian Safety Improvements at SR 29 & Brannan Street	In-pavement lighting		Bike/Ped	⬆️	⬆️	⬆️	⊖	⬆️	⊖
17	Calistoga	Safe Routes to School	Construct foot bridge over the Napa River at Pioneer Park		Bike/Ped	⬆️	⬆️	⬆️	⊖	⬆️	⊖
18	Calistoga	Washington Street Reconstruction	Complete street enhancements along Washington Street		Auto	⬆️	⬆️	⬆️	⊖	⬆️	⬆️
19	Calistoga	Intersection Improvements at SR 128 & Berry Street	Widen SR 128 and install left turn lane onto Berry Street	\$2,000,000	Auto	⬆️	⊖	⊖	⬆️	⊖	⬆️

PROJECT EVALUATION: ⊖ Not Applicable or Project Minimally Addresses Goal ⬆️ Project Somewhat Addresses Goal ⬆️ Project Addresses Goal ⬆️ Project Strongly Addresses Goal

PROJECT NUMBER	JURISDICTION	PROJECT TITLE	PROJECT DESCRIPTION	COST ESTIMATE	MODE	PROJECT EVALUATION (RELEVANCE TO PLAN GOALS)					
						EQUITY	SAFETY	CONGESTION RELIEF	ECONOMIC SUSTAINABILITY	SUSTAINABILITY	MAINTENANCE & PRESERVATION
20	Calistoga	Intersection Improvements at SR 29 & Washington Avenue	Convert signal to protected left-turn phasing at intersection of SR 29 & Washington Avenue		Auto	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
21	Calistoga	Intersection Improvements at SR 29 & Fair Way	Signalization of intersection at SR 29 and Fair Way	\$1,500,000	Auto	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
22	Calistoga	Intersection Improvements at SR 29 & Silverado Trail	Signalization of intersection at SR 29 and Silverado Trail	\$1,500,000	Auto	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
23	Calistoga	Intersection Improvements at SR 128 & Petrified Forest	Signalization of Intersection at SR 128 and Petrified Forest		Auto	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
24	Calistoga	SR 29 Bypass	Calistoga SR 29 Bypass Dunaweal Lane/Tubbs Lane		Auto	⬇️	⬇️	⬇️	⬆️	⬇️	⬇️
25	Calistoga	Lincoln Corridor Safety Enhancements	Signal modification, bicycle, and pedestrian enhancements		Multimodal	⬆️⬆️	⬆️	⬆️	⬆️	⬆️	⬇️
26	City of Napa	Trower Avenue Extension	Extend Trower Avenue east to connect with Big Ranch Road	\$10,500,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬇️	⬆️
27	City of Napa	Linda Vista Avenue Bridge and Extension	New bridge at Redwood Creek and extension of Linda Vista Avenue to Robinson Lane over new Linda Vista Bridge	\$3,500,000	Multimodal	⬆️	⬆️	⬆️	⬇️	⬆️	⬇️
28	City of Napa	Terrace Drive Bridge and Extension	New bridge at Cayetano Creek and extension of Terrace Drive from the southern terminus of Terrace Drive to the northerly terminus of South Terrace Drive	\$3,500,000	Multimodal	⬆️	⬆️	⬆️	⬇️	⬆️	⬇️
29	City of Napa	Solano Avenue Bridge and Extension	New bridge at Napa Creek and extension of Solano Avenue south to connect with First Street	\$3,500,000	Multimodal	⬆️	⬆️	⬆️	⬇️	⬆️	⬇️
30	City of Napa	Lincoln Avenue at California Boulevard & SR 29 Off-Ramp	Reconfigure northbound SR 29 off-ramp at Lincoln Avenue and modify Lincoln Avenue/California Boulevard intersection		Multimodal	⬆️	⬇️	⬆️	⬆️	⬇️	⬇️
31	City of Napa	Salvador Avenue Complete Streets	Complete streets infrastructure improvements including roadway widening to accommodate bicycle and pedestrian facilities	\$2,500,000	Multimodal	⬆️⬆️	⬆️	⬆️	⬇️	⬆️	⬆️
32	City of Napa	SR 29 over Trower Avenue	Trower Avenue underpass at SR 29	\$30,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬇️
33	City of Napa	Jefferson Street/Laurel Street Signal	New signal at Jefferson Street/Laurel Street intersection		Multimodal	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
34	City of Napa	Jefferson Street/Old Sonoma Road Signal	New signal at Jefferson Street/Old Sonoma Road intersection		Multimodal	⬆️	⬆️	⬇️	⬇️	⬇️	⬇️
35	City of Napa	Jefferson Street/Imola Avenue Intersection Modifications	Jefferson Street/Imola Avenue intersection modifications including additional right-turn lanes	\$3,000,000	Multimodal	⬆️	⬆️	⬇️	⬆️	⬇️	⬇️
36	City of Napa	Solano Avenue/Redwood Road Intersection Modifications	Solano Avenue/Redwood Road intersection modifications including widening and restriping		Multimodal	⬆️	⬆️	⬆️	⬆️	⬇️	⬇️
37	City of Napa	SR29 Bike and Pedestrian Undercrossing	Construct a bicycle and pedestrian undercrossing along the north bank of Napa Creek under SR 29 at approximately post mile 11.67		Multimodal	⬆️	⬆️	⬇️	⬇️	⬆️	⬇️

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						EQUITY	SAFETY	CONGESTION RELIEF	ECONOMIC SUSTAINABILITY	SUSTAINABILITY	MAINTENANCE & PRESERVATION
38	City of Napa	Soscol Avenue Widening	Widen Soscol Avenue/SR 221/SR 121 to six lanes from Magnolia Drive to Silverado Trail including median widening and intersection improvements	\$22,500,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
39	City of Napa	Lincoln Avenue/Jefferson Street Intersection Modifications	Lincoln Avenue/Jefferson Street intersection modifications including additional right-turn lanes		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
40	City of Napa	Lincoln Avenue/Soscol Avenue Intersection Modifications	Lincoln Avenue/Soscol Avenue intersection modifications including additional right-turn lanes		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
41	City of Napa	First Street and Browns Valley Road Corridor Complete Streets	Complete Streets infrastructure improvements including roundabouts at the intersections of First Street/Freeway Drive and First Street/SR 29 southbound ramps	\$14,500,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
42	City of Napa	Jefferson Street/Sierra Avenue Signal	New signal at Jefferson Street/ Sierra Avenue intersection		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
43	City of Napa	Browns Valley Road Complete Streets	Completes Streets infrastructure improvements including roadway widening between Westview Drive and McCormick Lane to accommodate bicycle and pedestrian facilities		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
44	City of Napa	Salvador Creek Bike Trail	Construct a Class I multiuse path along Salvador Creek	\$3,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
45	City of Napa	Five-Way Intersection Modification	Construct intersection improvements at Silverado Trail/Third Street/Coombsville Road/East Avenue	\$15,600,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
46	City of Napa	Oxbow Preserve Bicycle/ Pedestrian Bridge	Construct a bicycle/pedestrian bridge from the Oxbow Preserve over the Napa River to the River Trail	\$1,250,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
47	City of Napa	Oxbow District Bicycle/ Pedestrian Bridge	Construct a bicycle/pedestrian bridge from the River Trail over the Napa River to Third Street		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
48	City of Napa	Laurel Street Sidewalks	Construct sidewalks along Laurel Street where gaps are present		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
49	City of Napa	Traffic Operations Center	Citywide signal coordination	\$12,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
50	City of Napa	Sierra Avenue Sidewalks	Construct sidewalks along Sierra Avenue from Jefferson Street to SR 29		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
51	City of Napa	Terrace Drive Sidewalks	Construct sidewalks along Terrace Drive where gaps are present		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
52	City of Napa	Railroad Crossing Upgrades	Upgrade all railroad crossings citywide to Concreate® panels with flangeway fillers		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
53	City of Napa	SR29 Corridor Improvements (Urban Highway)	Landscape enhancements to Urban Highway from Carneros Intersection to Trancas; SR 29 at Imola Avenue, 1st Street, Lincoln Avenue, and Trancas Street		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
54	City of Napa	Vine Trail (Redwood Road Crossing)	Construct a grade-separated crossing across Redwood Road connecting the adjacent sections of the Vine Trail	\$4,500,000.00	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
55	City of Napa	Vine Trail (3rd Street to Vallejo Street)	Construct a Class I multiuse path between 3rd Street and Vallejo Street		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️

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56	Napa County	Silverado Trail Intersections	Improve intersection safety and operations at Oak Knoll Avenue, Yountville Crossroad, Oakville Crossroad, Deer Park Road, and Dunaweal Lane	\$5,000,000	Auto	⬆️	⊖	⬆️	⬆️	⊖	⊖
57	Napa County	Solano Avenue Corridor Improvements	Construct improvements to reduce flooding and reduce noise impacts of corridor		Auto	⊖	⊖	⬆️	⊖	⊖	⬆️
58	NVTA	29 North County Intersections	Improve intersection safety and operations at Oakville Grade Road, Oakville Crossroad, Rutherford Road (SR 128), Deer Park Road, and Dunaweal Lane	\$2,500,000	Auto	⬆️	⊖	⬆️	⬆️	⊖	⊖
59	Napa County	Route 221	Improve corridor operations	\$6,000,000	Auto	⬆️	⊖	⬆️	⬆️	⬆️	⊖
60	Napa County	Silverado Trail Corridor Analysis	Silverado Trail Corridor Analysis, including but not limited to, safety and congestion improvements	\$500,000	Auto	⬆️	⬆️	⬆️	⬆️	⊖	⊖
61	Napa County	Devlin Road & Airport Road Interchange	Devlin Road and Airport Road interchange improvement including roundabout		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
62	NVTA	Napa Valley Vine Trail – Calistoga	Construct Class I mixed-use path, including Fairway Extension and Bothe Park segment		Multimodal	⬆️	⬆️	⊖	⊖	⬆️	⊖
63	NVTA	Vine Trail	Class I bike trails, including portions of American Canyon, St. Helena, and unincorporated Napa County	\$20,000,000	Bike/Ped	⬆️	⬆️	⬆️	⊖	⬆️	⊖
64	NVTA	Soscol Junction	Construct SB 221 to SB 29/12 flyover structure	\$60,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
65	NVTA	Airport Junction	Construct grade separated interchange	\$60,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
66	NVTA	Park and Ride Lots (Construction and O&M)	Park and ride lots throughout Napa County	\$11,000,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
67	NVTA	VINE Maintenance Facility (Construction and O&M)	Acquisition and construction of new maintenance facility	\$40,000,000	Transit	⬆️	⊖	⬆️	⬆️	⬆️	⬆️
68	NVTA	Charging Infrastructure (Construction and O&M)	Electric bus infrastructure	\$4,000,000	Transit	⬆️	⊖	⬆️	⬆️	⬆️	⊖
69	NVTA	Express Bus Enhancements	13.5 miles of bus express corridor enhancements, including bus on shoulder	\$25,000,000	Transit	⬆️	⊖	⬆️	⬆️	⬆️	⊖
70	NVTA	Express Buses	Acquisition of 24 commuter-style buses for Rapid Bus from Vallejo Ferry Terminal to Redwood Park and Ride	\$20,000,000	Transit	⬆️	⊖	⬆️	⬆️	⬆️	⊖
71	NVTA	State of Good Repair/PM	Replacement of 24 commuter-style buses		Transit	⬆️	⊖	⬆️	⬆️	⬆️	⊖
72	NVTA	Local Routes (1-8): Expanded Service Hours	Expand service hours from 4am-12am; add Sunday service	\$10,281,880	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
73	NVTA	Regional Routes (10 & 11): Expanded Service Hours	Expand service hours from 4am-12am; add Sunday service	\$10,346,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⊖
74	NVTA	Regional Routes (10 & 11): Enhanced Frequency	Increase frequency from 30 peak and 60 midday/weekends to 30 peak and 30 midday/weekends	\$33,122,216	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⊖

PROJECT EVALUATION: ⊖ Not Applicable or Project Minimally Addresses Goal ⬆️ Project Somewhat Addresses Goal ⬆️ Project Addresses Goal ⬆️ Project Strongly Addresses Goal

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75	NVTA	New Transit Vehicles (Expansion)	Acquisition of new paratransit vehicles, community shuttle buses, and Vine buses for service expansion	\$27,510,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
76	NVTA	Transit System Growth (Operating Costs)	Operation costs for the expansion of the transit system	\$2,800,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
77	NVTA	New Shelters and Stop Amenities (Expansion)	Improved bus stops throughout Napa County	\$8,500,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
78	NVTA	Soscol Gateway Transit Center Improvements	Pedestrian connector, safety, and infrastructure upgrades	\$5,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
79	NVTA	Oxbow Bike and Pedestrian Crossing	Construct a bicycle/pedestrian bridge over the Napa River between 3rd Street and 1st Street adjacent to the existing railroad bridge	\$5,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
80	NVTA	Traffic Operations Center	Construct a traffic operations center in Napa County	\$12,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
81	NVTA	Multimodal Transit Station	Multimodal transit station to accommodate the rail and an east-west expansion	\$5,000,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
82	NVTA	SR 29 Phase 1	Operational and multimodal improvements on SR 29 from Napa Junction to American Canyon Boulevard, including signal technology upgrades and intersection reconfiguration	\$30,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
83	NVTA	SR 29 Six-Lane Parkway	Six-lane parkway from Napa Junction Road to South Kelly Road, including overpass structure		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
84	NVTA	SR 29 Gateway Improvements Phase 2	Phase 2 Highway 29 improvements; six-lane modified boulevard, including pedestrian, transit, and Vine Trail infrastructure	\$26,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
85	NVTA	Airport Junction	Operational improvements	\$3,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
86	NVTA	Imola Complete Streets Corridor	Complete Streets enhancements and safety improvements along the Imola Avenue corridor	\$15,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
87	NVTA	Transit Signal Priority	Transit signal priority on SR 29 and major corridors	\$2,250,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
88	NVTA	Madison Street Interchange	Improvements to SR 29/Madison Street intersection	\$10,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
89	NVTA	Napa Valley College Transfer Center	Construct a bus transfer center at Napa Valley College	\$2,000,000	Transit	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
90	NVTA	Carneros Intersection	SR 29/SR 12/SR 121 (Carneros intersection) improvements	\$3,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
91	St. Helena	Main Street Corridor Improvements Phase I	Upgrade sidewalk, pedestrian lighting, pedestrian furniture, landscaping/trees, and bike infrastructure	\$4,238,100	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
92	St. Helena	Main Street Corridor Improvements Phase II	Install traffic calming devices (e.g. bulb outs), pedestrian lighting, pedestrian furniture, landscaping, bike infrastructure, and traffic signal synchronization modifications	\$3,120,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️

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93	St. Helena	Downtown Corridor Improvements	Install traffic calming devices (e.g. bulb outs), pedestrian lighting, pedestrian furniture, landscaping, bike infrastructure and traffic signal synchronization		Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
94	St. Helena	Sulphur Creek Class I Bikeway	Construct Class I bikeway		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
95	St. Helena	Spring Mountain Road Class I Bikeway	Construct Class I bikeway		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
96	St. Helena	Oak Avenue Extension	Extend Oak Avenue	\$4,000,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
97	St. Helena	Starr Avenue Extension	Extend Starr Avenue	\$617,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
98	St. Helena	Adams Street Extension	Extend Adams Street	\$851,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
99	St. Helena	New North-South Collector	Extend College Avenue, or Starr Avenue, or Allison Avenue	\$1,900,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
100	St. Helena	Mills Lane Safety Improvements	Improve Mills Lane to two lanes with bike and pedestrian access	\$3,500,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
101	St. Helena	Napa River Class I Bikeway	Construct Class I bikeway (River Trail)	\$9,800,000	Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
102	St. Helena	New East-West Collector	Extend Adams Street or Mills Lane	\$2,900,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
103	St. Helena	Fulton Lane Safety Improvements	Improve Fulton Lane to two lanes with bike and pedestrian access	\$2,200,000	Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
104	St. Helena	Highway 29/Main Street and Pratt Avenue Intersection Improvements	Construct intersection improvements to safety and circulation on Highway 29	\$1,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
105	St. Helena	Highway 29/Main Street and Deer Park Road Intersection Improvements	Construct intersection improvements to safety and circulation on Highway 29	\$2,000,000	Multimodal	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
106	Yountville	South Veteran's Park Parking Improvements	Parking improvements to existing infrastructure		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
107	Yountville	Washington Park Sidewalk Project	Adding sidewalk to the Washington Park Subdivision		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
108	Yountville	Yountville Crossroads Bicycle Path & Sidewalk	Add a full-lane bicycle path along Yountville Crossroads		Bike/Ped	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️
109	Yountville	Future Parking Garage Facility	New parking facility		Auto	⬆️	⬆️	⬆️	⬆️	⬆️	⬆️



NAPA VALLEY TRANSPORTATION AUTHORITY TAC Agenda Letter

TO: Technical Advisory Committee
FROM: Kate Miller, Executive Director
REPORT BY: Diana Meehan, Senior Planner
(707) 259-8327 / Email: dmeehan@nvta.ca.gov
SUBJECT: Quick Build Program

RECOMMENDATION

Information only

EXECUTIVE SUMMARY

Quick-Build programs are designed to deliver a phased approach to capital projects that improve mobility, safety and connectivity, most often for bicycle and pedestrian modes. Quick-Build projects are designed to be installed quickly and to be reversible and adjustable to help evaluate the effectiveness of a project that could then become permanent.

Quick-Build programs can quickly improve infrastructure around High Injury Networks (HINs) or areas lacking complete streets infrastructure components. This approach can help reduce severe and fatal injuries to meet the goals of Vision Zero programs and improve mobility and connectivity in priority areas identified in countywide plans. Most recently, varying types of Quick Build programs have been implemented nationwide to accommodate additional needed space to maintain social distancing during the Covid-19 pandemic. An example are the *parklets* and *streeateries* cities and businesses have erected to accommodate outdoor dining spaces.

NVTA is investigating the potential to develop a Quick-Build program and is seeking feedback from the TAC.

FINANCIAL IMPACT

Is there a fiscal impact? No

BACKGROUND AND DISCUSSION

The Active Transportation Program (ATP), now in its fifth cycle, has introduced a Quick Build category into the program with a \$7M set-aside in the first programming year of 2021. Quick Build projects under ATP are defined as:

“...interim capital improvement projects that further the goals of the ATP. These projects require minor construction activities and are typically built with durable, low to moderate cost materials, and last from one year to five years. These projects have moderate design flexibility to anticipate adjustments that may occur. The purpose of a quick-build project is to immediately implement safety needs, allowing a community to benefit quickly from improvements made, and/or allow the people of a community affected by the project to provide input and test the project improvements before they are permanently constructed.”

Quick Build projects should not be confused with temporary demonstration projects, which are only designed for a short duration, typically 1-3 days to educate and gather feedback from the public on a particular project type.

Many projects in long-range transportation plans require significant planning, engineering and funding to implement, consequently taking years to complete. This can be problematic, especially in areas where there is high-demand or gaps in transportation networks, or on high injury networks. Quick Build programs create a pathway to expedite these types of high-priority projects.

Quick Build program development relies heavily on strong, consistent support from elected officials, public works and planning, community members and stakeholder groups. It requires establishing an implementation methodology that is functional, practical, and achievable within 12-24 months.

Below are benefits that result from Quick Build program and examples of Quick Build projects:

Quick Build Benefits:

- Low cost
- Adaptable/changeable (allow for adjustments)
- Provide a way to evaluate projects prior to high-cost permanent construction
- Allow community to support and experience new infrastructure types prior to making large investments
- Provide immediate response to areas with issues

Examples of Quick Build project types:

- Pedestrian safety enhancements
 - High visibility crosswalks
 - Pedestrian refuge islands
 - RRFB

- Traffic Calming
 - Curb extensions
 - Chicanes
 - Lane narrowing
- Bicycle improvements
 - Buffered bike lanes
 - Class IV bike lanes
- Intersection improvements
 - Advance stop bars
 - Traffic circles
- Transit:
 - Curb paint
 - Signage
 - Boarding islands

Program Goals should include, but not be limited to:

- Creating a safe multimodal transportation experience for everyone (Complete Streets)
- Reducing severe and fatal traffic incidents (Vision Zero)
- Make sustainable transportation modes more attractive and preferred
- Reducing VMT
- Closing transportation system gaps

Funding Quick Build:

Federal and state funding sources typically require a much longer project delivery process which frequently confound efforts to implement projects quickly. Committing local funds or considering public-private partnerships can streamline efforts to implement projects more readily and make adjustments as needed.

The Transportation Authority of Marin has created a Quick Build application (Attachment 1) and has made a one-time commitment using local sales tax funding for this effort. If the TAC is interested in such a program, a similar program could be developed for Napa County. NVTa will need to explore funding for such a program or identify existing funding sources such as Transportation Development Act Article 3 (TDA-3) or One Bay Area Grant (OBAG) that can be used for Quick Build projects.

SUPPORTING DOCUMENTS

Attachment 1: Transportation Authority of Marin Quick Build Application

2: Quick Build for Better Streets: A New Project Delivery Model

Grant Application for Quick Build Pilot Projects

To meet immediate health needs, and to support businesses, services and institutions in Marin County in response to the COVID-19 pandemic, the Transportation Authority of Marin (TAM) is providing one-time grants to support quick build redesign efforts on public streets. Applications must be received by email on or before **Thursday, July 2, 2020** to be considered for funding. Please submit responses to the following questions.

1. Application Information

Responsible Agency:

Address:

Contact Person:

Phone:

E-Mail:

2. Project Information

Project Title:

Project Description (including project scope, issues that this project will address and expected benefits):

Project Location (please attach a location map showing project limits if available):

Please describe how this project will implement practices identified in NACTO Streets for Pandemic Response & Recovery guidance (released 5/21/2020 and available [here](#)):

Does this project include installation/implementation of any of the following elements as defined in the NACTO guidance?

	Yes	No
Bike and Roll Lanes:		
Sidewalk Extensions:		
Transit lanes:		
Slow Streets:		
Pick Up and Delivery Zones:		
Outdoor Dining:		
Markets:		

Please Describe how this project will promote transit recovery or active transportation modes:

Please describe how this project will promote equity and prioritize addressing existing inequalities:

Please describe the public participation process for implementing the project:

Please describe your agency's long-term plan for the quick-build project and how the effectiveness of the project be measured?

3. Timeliness of Completion

The intent of these funds is to facilitate small scale improvements that can be completed quickly with minimal pre-construction work needed. Recipients of these funds are expected to complete construction and begin operation within a matter of weeks, and request reimbursement from TAM. If this project cannot be completed within this timeframe, please describe actions that would be taken to advance this project over a longer duration:

Please confirm if the project is exempt or has been cleared from CEQA: Yes No

4. Cost Estimate Breakdown and Schedule

Provide the information related to the project cost (including staff time) schedule, and operations and maintenance.

5. Innovation Program Funding Requested

Provide the amount of funds requested – (limited to \$20,000 per request) _____

6. Other Programmed Funding

Identify other funds programmed for this project. Pending funds are funds for which you intend to apply. Secured funds are funds from sources that have been awarded. Please note that staff time is not eligible for reimbursement.

Source (list specific names of other funding)	Phase	Fiscal Year	Status of funds (pending or secured)	Programmed Amount
Total Funds Programmed				

8. Application Preparation

Prepared by: _____

Date: _____

This Quick Build/Slow Streets Funding Application has been prepared under the direction of the Public Works Director or City Engineer of the _____ (city/town/County name here). The Public Works Director or City Engineer attest to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Signature of Public Works Director/City Engineer: _____

Date: _____

QUICK BUILDS FOR BETTER STREETS: A NEW PROJECT DELIVERY MODEL FOR U.S. CITIES



peopleforbikes



Prospect Park West, New York City, Built in 2010.
Photo Credit: New York City Department of Transportation



I-405, Los Angeles, CA. Built in 1961. Photo Credit: Prayitno

INTRODUCTION: THINKING BIG BY WORKING SMALL

The problems modern city streets face are as huge as ever. But these days, many of the best solutions are small.

You can't tweak a freeway. But a public plaza, a protected bike lane, a dedicated bus lane: these features of modern cities, unlike the projects we built two generations ago, can be made quickly and adjusted fast.

So maybe it's no surprise that, in the last decade, some U.S. cities have been creating new models for project delivery and implementation that rethink the bureaucratic processes developed during the freeway era.

By rethinking the purpose of streets, U.S. municipalities are delivering improved safety, better economic performance, new transportation choices and a higher quality of life. They are doing so with new techniques that realign and reassign space on streets using paint and simple physical objects that can be cheaply purchased and quickly installed. Using these rapid implementation methods over the last several years, cities are creating heavily used bike networks, popular

new public spaces and demonstrably safer streets for walking, biking and driving.

For organizations as big and complicated as local governments, creating a new process or procedure is difficult. But if you do it right, it can be revolutionary.

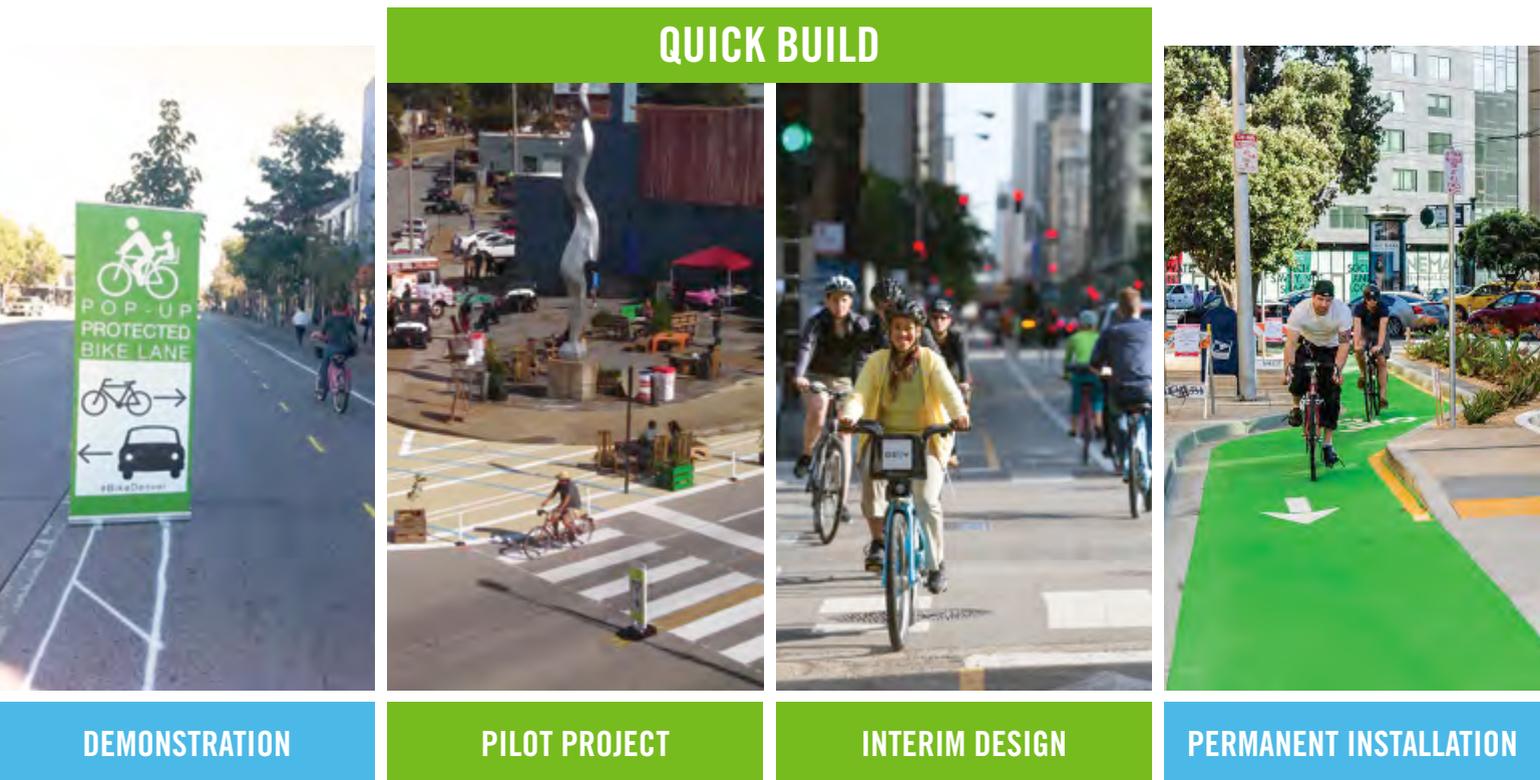
This report draws on the experiences of Austin, Chicago, Denver, Memphis, New York, Pittsburgh, San Francisco and Seattle to create a general guide for adding this exciting, effective new form of project delivery into your city's toolbox.

ABOUT THIS REPORT

This is one of a series of short, practical reports from PeopleForBikes' Green Lane Project, which helps cities build protected bike lanes so they can connect neighborhoods with low-stress biking networks. It was researched and written by Jon Orcutt with support from Michael Andersen and the Green Lane Project team, drawing on the experiences of the Green Lane Project's first four years.

Cover image: The Lincoln Hub in Chicago, IL. Built in 2015. Photo Credit: John Greenfield.

WHAT IS A QUICK-BUILD PROJECT?



TACTICAL URBANISM: THE SPECTRUM OF CHANGE

THE NEW, RICH SPECTRUM OF PROJECT DELIVERY

Quick-build project delivery is part of a new set of ideas sometimes referred to as “tactical urbanism.” In their 2015 book *Tactical Urbanism: Short-Term Action for Long-Term Change*, Mike Lydon and Anthony Garcia describe a spectrum of ways that streets can change, ranging from the most temporary changes to the most permanent ones.

Quick-build projects fall on the middle parts of this spectrum. Like larger capital projects (which are mostly asphalt and concrete), quick-build projects are meant to be used by the public for years. But many other things about them—materials, process, funding—are new and developing rapidly. As discussed in this report,

A QUICK-BUILD STREET PROJECT IS:

- » Led by a city government or other public agency.
- » Installed roughly within a year of the start of planning.
- » Planned with the expectation that it may undergo change after installation.
- » Built using materials that allow such changes.

Demonstration Photo Credit: Bike Denver; Pilot Project Photo Credit: John Paul Shaffer; Permanent Installation Photo Credit: Sergio Ruiz

EVERY QUICK-BUILD STREET PROJECT NEEDS THESE NINE THINGS:



A TEAM

We recommend that any agency pursuing quick-build projects designate at least one specialist to be involved with every such project. In addition, these projects require buy-in from engaged politicians or top executives; nimble and creative designers; money handlers, both in budgeting and procurement; and communications and outreach pros.



A CONTRACTING PLAN

Quick-build jobs are rarely compatible with full bid cycles. Cities need either on-call contracts or in-house crews.



AN OUTREACH GAME PLAN

With these projects, installation comes in the middle of the public outreach process, not near the end.



A SYSTEM FOR SEIZING OPPORTUNITY

When opportunities knock, cities will fail to take advantage of them unless there is a process in place that can swing rapidly into action and put a project atop the priority list.



SPECIALIZED COMMUNICATIONS

Alongside its direct outreach, a quick-build project needs language and images that help the public understand that it's a way to improve public involvement, not circumvent it.



INSTITUTIONALIZED URGENCY

Installation deadlines are mandatory, whether dictated by the first big snowfall of winter, by a repaving schedule or by a mayoral pledge.



A MAINTENANCE PLAN

Replacing torn posts, repainting colored pavement and clearing paths of snow or debris won't break your bank, but they do require time, money and equipment.



A RELIABLE FUNDING STRATEGY

Most state and federal grants are designed around the capital-project model. Quick-build work requires different tricks.



MEASUREMENT

Objective metrics are an essential part of the process, both for making necessary adjustments and ultimately for demonstrating success.

The following pages explore each of these in more detail.



A TEAM

We recommend that any agency pursuing quick-build projects designate at least one specialist to be involved with every such project. In addition, these projects require buy-in from engaged politicians and their appointed executives; nimble and creative engineers; money handlers, both in budgeting and procurement; and communications and outreach pros.

Though quick-build projects are often related to biking, a quick-build project delivery team isn't united around the goal of improving biking per se. Instead, a great team should be united across disciplines in their enthusiasm for creative, human-scale uses of public space.

A great team should be united across disciplines in their enthusiasm for creative, human-scale uses of public space.



Annick Beaudet

“You don't need new resources,” said Annick Beaudet, who helped Austin create a quick-build system while serving as its bicycle program manager and now serves as its Transportation System Development Division

Manager. “It's utilizing your existing resources toward rapid implementation in a new way.”

Where should the team exist within a city's bureaucracy? This is an important decision, not so much because the *right* choice must be made, but simply because a choice must be made.

Pragmatism should be the rule. No two city governments function in precisely the same way, but the quick-build approach to urban transportation is proving to be easily adaptable and highly usable in a variety of city scales.

In larger cities like New York, Chicago and Seattle, quick-build project duties are assigned to established units of transportation departments. Operational divisions responsible for traffic engineering, signals and street markings generally plan and implement the street design changes. Often, units directly responsible for cycling and pedestrian projects are responsible for development, outreach and project management.

Seattle's relatively new venture into quick-build projects remains primarily focused on the bike network, which is planned and executed by Seattle DOT's Traffic Division. The department is currently creating a new project development office under Commissioner Scott Kubly which

could integrate and coordinate quick-build and capital project approaches to the city's transportation needs.

The attitude required for quick-build projects may not be compatible with people who specialize in longer-term, expensive capital construction projects. New York, Chicago and

Seattle separate these teams.

New York City's Street Design Manual, for example, makes a clear, intentional distinction. “DOT implements two kinds of projects: ‘Operational’ and ‘Capital.’ Operational projects usually do not involve sub-surface utility work, drainage, or roadway grading...”

In some cities, particularly smaller ones that do not have a “full-service” city DOT or whose transportation department shares responsibilities with a public works department, conceiving and implementing quick-build projects can require more cross-department collaboration.

Quick-build transportation projects are developed and implemented in Pittsburgh by a unique standing working group involving City Hall, the city's planning and public works departments, the county planning department, the company operating the city's new public bike program and the main cycling advocacy organization.



A SYSTEM FOR SEIZING OPPORTUNITY

When opportunities knock, cities will fail to take advantage of them unless there is a process in place that can swing rapidly into action and put a project atop the priority list.

Once in a while, stars align: a community group or business asks for a project that also has support from both city staff and politicians.

Those moments are delicate things, easily suffocated by bureaucracy.

“By no means should a process get in your way when you have a kumbaya of community want, administrative and political support,” said Austin’s Beaudet.

For Memphis, the way to quickly capitalize on “kumbaya” moments has been to take large amounts of the selection process out of the hands of government. Every project in the MEMFix program is selected by a community-based group under contract with the city.

“We’re reacting to what the community perceives to be a problem,” said Kyle Wagenschutz, Memphis’s bicycle and pedestrian coordinator.

Other cities lean more on systems to help prioritize. For traffic calming projects, New York tracks safety data; for bike lanes it balances the network plan against public requests; for plazas it collects and selects applications from local stakeholders.

Whatever the method, the key is to ensure that a person who understands the quick-build process—maybe the city’s designated quick-build specialist, maybe someone else—will hear about potential projects when they arise.

In Memphis, the MEMFix program is led by the city’s Traffic Engineering Department, whose project designers and in-house crews conceive and deliver the projects. The program includes involvement by the Mayor’s Office, the Public Works Department, local non-profit groups and volunteers for some implementation work.

The San Francisco Metropolitan Transit Agency’s Livable Streets unit integrates planning, engineering and budgeting for traffic-calming, bicycling and pedestrian-oriented projects. These include quick-build street geometry changes to large-scale capital projects and an increasing number of hybrid projects that involve both painted geometric changes and robust construction changes. SFMTA Livable Streets installs operational materials such as pavement color or plastic delineators, but relies on the city’s Department of Public Works for concrete pouring and asphalt resurfacing.

However the team of quick-builders is distributed through government, cities agreed that it’s important to name one or more people to specialize in such projects.



Kristen Simpson

“You need a strong project manager who is empowered to remove obstacles and elevate issues quickly,” said Kristen Simpson, the former acting director of Seattle’s project development division.

“If everyone’s doing

their part but no one’s orchestrating them, things can go off track quickly.”

In Austin, Beaudet said, the contract manager and project manager for the city’s on-call contractors serve that function. “They are that vein of comfort and trust where people are like, ‘OK, if this guy says this is what we do, I trust him,’” Beaudet said. “You need someone who can provide normalcy. You need someone who can vouch and say ‘This is a way we do business.’”



Kyle Wagenschutz

SECOND AVENUE SHOWS SEATTLE THAT SPEED IS POSSIBLE

In 2014, Seattle used the simplest possible system for seizing opportunity: an unexpected mayoral mandate.

Though the city had experimented with protected bike lanes a few years earlier, the design was expensive and the implementation slow. Recently elected Mayor Ed Murray felt the city was falling behind in delivering a working bike network and had been slow to address traffic safety problems such as crashes involving people biking on Second Avenue.

So at a breakfast speech on Bike to Work Day in May 2014, Murray announced that Second Avenue would get a protected bike lane in time for the fall launch of Pronto bike sharing.

The declaration accelerated a previously planned project by 18 months. Outreach for the design of a bidirectional protected bike lane on the one-way downtown street began immediately. Additional features, including dedicated bike signal phases at intersections, were added to the plan that summer.

It was a heart-thumping race to the finish for Seattle staffers. In one story that city staff like to tell, the install team ran out of side-mount flanges just before installation weekend. Two signal electricians ended up making an emergency road trip to the nearby city of Everett to look for spare parts that they painted and cut to fit.

The completed Second Avenue opened in September, just four months after the mayor's proclamation. From outreach to installation, the work was carried out exclusively in-house at Seattle DOT. "Biking downtown will never be the same again," declared Seattle Bike Blog.

A week later, the city released bike counts documenting a tripling of bike volumes along the avenue. That success led quickly to additional projects—and a new five-year timetable for building Seattle's entire city center bike network.



Second Avenue, Seattle, WA. Built in 2014.

That person should have a basic “toolkit” in their head of the possible quick-build treatments, from thermoplastic curb extensions to plant-lined plazas to paint-and-posts protected bike lanes.

“You need a system that puts all the opportunities in front of a human,” said Seattle’s Simpson. “They can only review the ones that they see.”



INSTITUTIONALIZED URGENCY

Installation deadlines are mandatory, whether dictated by the first big snowfall of winter, by a repaving schedule or by a mayoral pledge.

Winter cities have an interesting advantage when it comes building quickly: nature's deadline.

"Can Chicago reach 30 miles of 'green lanes' before the snow flies?" asked the blog Grid Chicago in 2012. The city was setting a breakneck pace for building protected and buffered bike lanes after a campaign pledge from Mayor Rahm Emanuel.

Chicago missed that moonshot, but landed among the stars anyway: it was responsible for one-quarter of all the protected bike lanes built in the country that year, a pace that's never been matched since.

Chicago, Pittsburgh, Austin and New York all select and develop projects over the winter for implementation in warmer months. It's such an important part of their quick-build process that cities with fewer weather restrictions might consider other ways to create deadlines that can add more urgency to internal decision-making.

In many cities, the easiest self-imposed deadline for street changes is the repaving schedule. That's certainly the cheapest time to add new crosswalks or bike lane buffers.

In cities with well-established quick-build programs, in fact, the process is reversing: the needs of the biking and walking networks have begun to shape the repaving schedules. This is happening in Austin and New York, especially on larger scale corridor projects that combine walking, busing and biking improvements.

Project delivery is quick enough there that the cities can swap a project off their annual to-do lists, capacity permitting, if physical or political conditions prevent implementation in that season.

Memphis and Seattle use a different system for creating urgency: each year they set a goal for projects to complete. In 2015, Memphis assigned its MEMFix contractor to complete two quick-build projects of any type; Seattle, meanwhile, aimed for seven miles of new buffered or protected bike lanes citywide.

"We always think we're being conservative when we set our goals, and every year it's a scramble," Simpson said. "That really keeps us looking for opportunities."



A RELIABLE FUNDING STRATEGY

Most state and federal grants are designed around the capital-project model. Quick-build work requires different tricks.

As with finding the right way to integrate a quick-build program into the bureaucracy, pragmatism also rules the way a quick-build project fits into a city budget.

Funding for programs across our sample of cities varies greatly, showing how adaptable and evolutionary the practice of quick-build street transformation is.

In most cases, cities lean on local funding to minimize procedure and delay. Even in cities with long experience using federal funds for cycling and pedestrian improvements, the delays in allocating, winning approval and completing all the necessary check-offs can make federal funding a difficult match with quick-build transportation projects.

This is exacerbated where state transportation departments, the custodians of Federal Highway Administration funding, question newer street designs



Lincoln Hub, Chicago, IL. Built in 2015. Photo Credit: John Greenfield

and implementation techniques. In some cases, states control highway routes that double as city streets, adding another possible barrier to redesigns. But it is possible to find state and federal funding for quick-build projects.

In Chicago and New York, where city governments had previously established relatively long cycles of federal funding for bicycle network and some pedestrian-oriented projects, U.S. Congestion Mitigation and Air Quality funds play a substantial role in building protected bicycle lanes. In New York, these resources are supplemented by local funding added to the DOT budget by Mayor Bloomberg's PlaNYC sustainability initiative, and later by some additional operating funds earmarked for Mayor de Blasio's Vision Zero policy. But CMAQ funds can be insecure; at times, public debate over NYC cycling policies and bike lane designs has led to nervousness at the state level, threatening to slow the flow of federal support.

Chicago uses local money to install its quick-build projects, but CMAQ money to plan and engineer them. "Our CMAQ funding is for implementing our Streets for Cycling Plan," said Mike Amsden, assistant director of transportation planning for Chicago. "So we have some flexibility to use that money to design and install a variety of different bike lanes."

Elsewhere, local funding has been the rule. Standing budget line items for street markings, signs and signals contribute to projects that re-make street geometries. City infrastructure bond measures support the quick-build programs in Austin, San Francisco and Seattle. When a Chicago project falls in an urban renewal district, property tax increment financing can chip in.

Pittsburgh's program was unique: it launched with philanthropic funding. The Richard King Mellon Foundation gave grants in the tens of thousands per year for several years to the nonprofit advocacy group



Penn Avenue, Pittsburgh, PA. Built in 2014.

Bike Pittsburgh, which used the money to hire private engineers who designed most of the city's first striped bike lanes.

Pittsburgh then used those plans to install the lanes, often with paint or inlaid tape.

Like most cities, Chicago doesn't yet have a dedicated line item in its local transportation budget for quick-build projects. But it pays for some biking and walking infrastructure in an interesting way: with a portion of the \$2.5 million it receives annually from Blue Cross-Blue Shield as sponsorship of the city-owned Divvy Bike Share system.

"That money goes toward a wide variety of bike-related projects in our budget: everything from printing our bike maps to funding our bike ambassador program," Amsden said. "We also use anywhere from \$200,000 to \$1 million per year for bike lanes and

One key reason quick-build programs have scored local money is that they can deliver improvements quickly: well within a single political term.

pedestrian safety projects. If something comes up that's a \$10,000, \$20,000, \$30,000 project, we can shift money around."

One key reason quick-build programs have scored local money is that they can deliver improvements quickly: well within a single political term. This can be especially useful when local lawmakers influence money spent within their districts.

As they seek to expand programs, Memphis, Austin, Seattle and Pittsburgh anticipate greater use of federal funding and are working with their state counterparts to arrange this support, while recognizing that the procedural delays in using these resources mean that they will be built into future implementation cycles rather than projects on the immediate horizon.



A CONTRACTING PLAN

Quick-build jobs are rarely compatible with traditional bidding processes. Cities need either on-call contracts or in-house crews.

On-call contracts, sometimes referred to by the federal acronym IDIQ for “indefinite delivery/indefinite quantity,” are probably the only form of formal government project procurement compatible with quick-build projects.

“You go through a lot of projects in one big contract,” said Austin’s Beaudet. “Let’s say the contract is \$2 million or \$10 million. You may have an idea of how many projects you want to do; the beauty of it is that it’s flexible.”

Quick-build projects are mostly built of things other than concrete, but a few modest concrete features like pedestrian islands, curbed medians and sidewalk extensions can go a long way to making a redesign work.

Some cities, including New York and San Francisco, have in-house concrete-pouring units. Other cities, including Austin, make sure their contractor has one.

Seattle does most of its work in-house. Its quick-build project managers wrangle time from multitasking street crews.

“Usually we have enough projects in their queue that when we have a higher-priority project we can switch out,” said Simpson. “Or we pay overtime. Or we convince them to do some of our work on straight time and charge somebody else overtime.”

Memphis taps a third source of labor, in addition to contractors and government employees: volunteers. That’s possible because of MEMFix’s community-led structure.

After getting city approval for a project design, MEMFix’s lead contractor Livable Memphis, might ask city crews to do linear lane striping. Meanwhile, Livable Memphis might buy materials (or solicit donations from local businesses) and give them to volunteers to go behind the city crews and fill in features like crosswalks.

“On any MEMFix event, you’re probably seeing a combination of those three,” Wagenschutz said.



Bluebonnet Lane, Austin, TX. Built in 2012.



Arapahoe Street, Denver, CO. Built in 2015.

DENVER IMPROVISES AN IN-HOUSE CONTRACTING PROCESS FOR PROTECTED BIKE LANES

When Denver set out to build a parking-protected bike lane couplet on two miles of downtown streets in 2015, it thought the work would just involve some re-stripping.

But to make a quality project, the city realized that more work was needed, from moving parking meters to creating new floating bus stops. As the scope changed, Denver Public Works staff realized that projects like these fall in between the city's usual categories.

"They're too big for in-house capabilities, but not a multi-million-dollar capital project," said Denver Urban Mobility Manager Emily Snyder. "And that's the two worlds right now we live in."

But the lanes were a priority. So, with backing from public works managers, Snyder and her colleagues created one of the most unique project delivery plans in the city's history.



Brittany Price

Brittany Price, assigned as the lead engineer for both projects, tapped experience from her private-sector background to essentially double as the city's in-house general contractor herself.

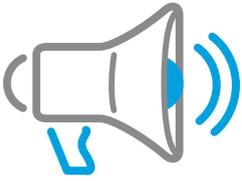
For concrete and pavement marking, she drew on the city's existing on-call contracts. For signal work and meter relocation, she found in-house staff who don't usually work on bike projects, such as parking meter repair workers, to do that work between their regular tasks.

Two weeks before construction started, Price's team led a huge "all hands on deck" meeting of 40 people representing every team that would be involved. "We spoke to everyone on the phone and were like, 'We really need you there,'" Price said. "I can't stress how important it was to have the management team be supportive and to make that priority one. Otherwise it wouldn't have happened, for sure."

During installation, Price also functioned as the implementation manager. That meant spending about half her day in the field, split between morning and night to answer the questions of workers on both the day and night shifts.

It worked. Mayor Michael Hancock cut the ribbon personally on December 3 ... and promised three more protected bike lanes in 2016. For those, public works is hoping to somehow create a new system that will let them hire external general contractors for jobs under \$1 million or so.

"We're basically working on the best ways to deliver mid-size but complex projects," Snyder said.



AN OUTREACH GAME PLAN

With these projects, installation comes in the middle of the public outreach process, not near the end.

Quick-build projects are tweakable. This means that the initial installation itself is part of the public outreach process. To use language from the software industry, every project is a public beta test.

At best, this makes quick-build projects inherently more effective at public outreach than traditional ones.

Because they change streets rapidly, quick-build projects can help dull the power of “loss aversion,” the natural psychological tendency to value something we have—even if it’s a dangerously wide street—over something unfamiliar. By resetting the “default” status of a street early in the project, quick-build projects can rapidly change conversations about what is possible.

However, quick-build projects do not remove loss aversion. Indeed, many rapid changes can get people’s attention in a way that fewer, slower changes don’t.

The resulting challenges come from two directions:

- » Some people will see quick-build projects as moving too fast, not realizing that the point of flexible materials is to keep adjusting them on the ground.
- » Other people will see quick-build projects as excuses not to invest in permanent change, not realizing that the goal is to eventually upgrade to concrete.

Seattle has faced the first problem. Simpson’s advice is to manage expectations: document that there is in fact a problem that must be solved, and frame the challenge not as “Do you want to do this project?” but rather “How can we best accomplish this goal?”

Austin has faced the second problem. “We have been doing a lot of interim stuff in Austin in the last few years,

and now people are saying, ‘Wait a minute, you’re pulling one over on us,’” said Beaudet. “People really want to make sure we haven’t lost sight of the larger, more permanent projects.”

The truth, of course, is that the city is working hard to finance permanent projects, but that quick-build work is a way to give a street some of the benefits in the meantime.

“By doing these fast interim projects, you get immediate return on investment,” said Beaudet. “Waiting for your big ship to come in, you’ve lost years of quality of life and safety and mobility. That’s the reason to do it. That’s the argument that we make ... We still want the bigger, sexier improvements, but we’re not willing to do nothing waiting for that.”

In addition, Beaudet said it’s useful to get a letter from a top official in which they explicitly promise that interim improvements won’t preclude permanent ones. “That goes a long way,” she said.





Monroe Avenue and Marshall Avenue, Memphis, TN. Built in 2014. Photo Credit: John Paul Shaffer

MEMPHIS CREATES A ROLLING COMMUNITY FESTIVAL OF STREET REDESIGN

In substance, Memphis' MEMFix program is similar to other cities delivering quick-build street improvements.

But its grassroots origin and abiding participatory nature supports the idea that any jurisdiction that can mark its streets can complete a quick-build project.

In 2010 Memphis citizens petitioned city government to install a new temporary geometry on a disinvested, high-potential commercial street. The volunteer-led effort, initiated by the street's business association, used house paint to mark a protected bike lane and organized a neighborhood festival that recruited retailers from other neighborhoods to open pop-up businesses in vacant storefronts.

It was a big hit with the community, business leaders and biking advocates alike. Soon after being elected, Mayor A C Wharton agreed that the city should promote more such projects. Early efforts became laboratories for testing designs, materials and procedures.

The city gradually institutionalized the process over the next few years, including participating in PeopleForBikes' Green Lane Project for technical assistance, program development and streets guidance. Funding, outreach and implementation materials were all approached pragmatically, using tools at hand. Some materials were donated by businesses and installed by volunteers.

The program has grown to encompass many projects, including traffic safety improvements and public spaces, on a regular implementation cycle. MEMFix neighborhood events are still held at the launch of some projects.

Because the program is initiated and led by community partners, Wagenschutz said it rarely faces much criticism. "There's always a fair amount of sort of buy-in that already exists," he said. "Generally the kinds of improvements we're doing in Memphis all have notable safety benefits to them, and I think that becomes evident."



SPECIALIZED COMMUNICATIONS

Alongside direct outreach to stakeholders, a quick-build project needs consistent language, images and processes that help the public understand that it's a way to improve public involvement, not circumvent it.

Though its direct outreach has been impressively successful, Memphis is among the many cities that have struggled to explain the quick-build philosophy to the public at large.

“We’ve tried sort of everything,” said Wagenschutz. “We’ve done mailing to people in the neighborhood, we’ve done newspaper articles, that kind of stuff. I’m not sure there’s a great method of helping people understand the temporary nature.”

So far, Wagenschutz said, the best move they’ve made has been to simply leave the projects in place for longer: six or 24 months rather than two or three days. Every MEMFix project still kicks off with a community party. The city simply leaves the changes in place afterward. “The transition to having them on the ground longer helps,” Wagenschutz said. “It becomes a more normal part of people’s daily lives.”

Quick-build projects can face the opposite pitfall, too: Being sold as a “pilot” even though a city has no intent to change them.

“You can’t keep calling things a ‘pilot’ and then keep them,” said Pittsburgh Bicycle and Pedestrian Coordinator Kristin Saunders. “People know better ...



Kristin Saunders

If you’re going to call something a pilot, there needs to be a published program for testing something and refining it if necessary and collecting data to tell you if it’s working.”

Many cities have found that each successful quick-build project begets more, future ones. Early success can sell political leadership on the value of the approach and lead to larger programs. San Francisco and Seattle launched their efforts largely on the strength of a single centerpiece project. In New York City, a series of experimental public plazas elsewhere in the city led to the high-profile pedestrianization of Times Square.

In Denver and Memphis, business groups pushing for protected bike lanes found a creative way to shape the public narrative about their city’s first quick-build projects. They organized live street demos and followed up with online crowd funding campaigns that solicited small donations from local companies and residents.

The money raised—\$75,000 in Memphis, \$36,000 in Denver—required substantial staff time from the nonprofits involved, and it wasn’t nearly enough to actually build the projects. Instead, the main benefit was to communicate to the public and to the city government that these projects were coming from the people.

“Now we can say, ‘Remember what happened on Arapahoe Street? We want to do that on Broadway,’” said Aylene McCallum of the Downtown Denver Partnership. “Different strategy: we don’t need you to raise money, but we need you to write a letter to the mayor.”

Many cities have found that each successful quick-build project begets more, future ones.



A MAINTENANCE PLAN

Replacing torn posts, repainting colored pavement and clearing paths of snow or debris won't break your bank, but they do require time, money and equipment.

As every transportation official knows, “finishing” a road project does not end a city’s financial relationship with it.

Quick-build projects can deliver immediate economic benefits by cheaply changing the way streets work. But low-cost, flexible materials require more frequent maintenance—replacing posts, refreshing paint—so the on-going costs can add up.

Quick-build projects can deliver immediate economic benefits by cheaply changing the way streets work.

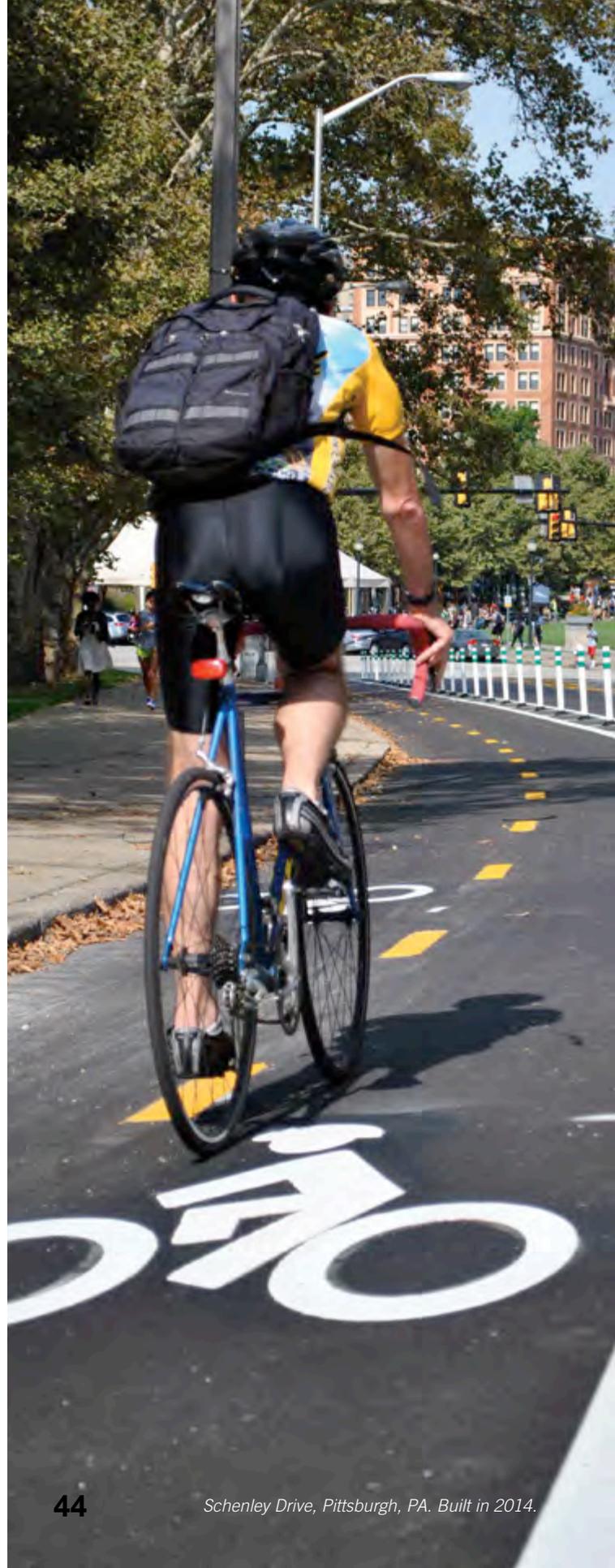
Since beginning its protected bike lane rollout in 2012, Chicago has begun manually removing posts from some streets during snowstorms, to make room for plows. It then reinstalls them in the spring, but uses many fewer posts than it once did.

Denver, another snowy city, is just learning about the maintenance its projects will require.

“Think about all your maintenance vehicles and design to the widths and dimensions of those maintenance vehicles,” advises Dan Raine, a city planner developing the city’s practices for the subject.

In 2014 and 2015, Denver used a Jeep with a front plow to clear its bike lanes. But during larger snowfalls, the Jeep got stuck in the snow multiple times a mile.

In 2016, the city planned to hire a crew specifically to maintain bikeways, and also to buy new equipment specifically for clearing snow from protected bike lanes. Denver also sends crews out during snowstorms





Bluebonnet Lane, Austin, TX. Built in 2012.

to preemptively apply magnesium chloride to shady sections of protected bike lanes. If ice forms, Raine said, “it will last for days until it melts away.”

Other maintenance issues include mountability—by garbage trucks, for example—and durability in traffic. By the end of Denver’s first winter with a protected bike lane, well over half the plastic posts needed replacing.

Austin engineer Nathan Wilkes said the city has begun setting off protected bike lanes with three-inch-tall precast domes, attached to the pavement with epoxy.

Wilkes estimates that the ten-inch-wide concrete domes cost \$20 per unit to manufacture and install, or \$22,000 per lane-mile with five-foot spacing. He hopes they’ll last 10 years or more.

“It’s not quite as tall as we’d like to see; something closer to five inches is where we’re headed,” Wilkes said. “Just from a functional standpoint, five inches is kind of a magic number.” That’s because five inches is the maximum height that can be cleared by fire and sanitation trucks that might need to straddle the bike lane barrier as they head down a street, he said.

For other projects, Austin is using plastic posts, but has upgraded to one of the higher-quality models after seeing the cheapest ones regularly fail within days.

“Not all delineator sticks are created equal,” Wilkes said. “Their highest-durability one, they did field tests at 60 mph and they’re standing straight.”



MEASUREMENT

Objective metrics are an essential part of the process, both for making necessary adjustments and ultimately for demonstrating success.

New York has been a national leader in measuring quick-build projects just as much as it has been in building them.

Since 2007, the city’s department of transportation has conducted intercept surveys to show how many customers get to stores without cars; analyzed sales tax data to show faster-than-average retail growth on redesigned streets; and used taxi travel time data to show that removing auto lanes can actually shorten travel times by reducing lane weaving and other problems. It’s also carefully tracked the number of reductions and injuries before and after quick-build projects, creating an ever-lengthening list of good outcomes.

Few smaller cities have done as thorough a job at data-gathering, but national standards are emerging. The 2015 Separated Bike Lane Planning and Design Guide

from the Federal Highway Administration included two appendices (D and E) with clear recommendations for measuring readership and collision rates in protected bike lanes. All cities say measurement is central to their quick-build work.

“Whatever we put out there we want to observe it and test it and see how it works,” said Wagenschutz.

He recalled one project to add a pedestrian crossing to a stretch of road that had no legal crossings but saw many people crossing anyway. “We put up cameras and had our interns in the office watch hours of footage,” Wagenschutz said. The data, he said, showed that crossing locations became far more predictable when a convenient legal crossing was added.

Seattle gives each project a one-year quantitative evaluation. “We have a whole list of things we look at: collisions, speeds, volumes, travel times,” said Simpson. “I think the one we use the most is collision data—even if it’s just an intersection improvement we look at that.”

In Pittsburgh, project money was so tight that the city couldn’t find any cash of its own to measure whether its highest-profile project, Penn Avenue, was having any effect.

All cities say measurement is central to their quick-build work.

“We were unable to find a line item that would help us purchase counters, but the Pittsburgh Downtown Partnership could,” Saunders said. Thanks to five bike and pedestrian counters bought by the downtown business association for \$17,000, Pittsburgh was able to trumpet a huge increase in bike traffic.

“There are 800 or 1,000 people a day on Penn Avenue in the summertime, so you can’t really not call it a success,” Saunders said. “The people who don’t like it, I don’t really hear them any more.”

ISSUES AND PROBLEMS

DO QUICK BUILD PROJECTS LEAD TO PERMANENT CHANGES?

In theory, yes. But as of 2015, no jurisdiction has created a direct channel to send such projects into capital construction pipelines.

Some quick-build projects are being replaced by full reconstruction projects, but so far this is done on a case-by-case basis. The closest relationship may be in the New York City DOT Public Plaza program, which explicitly allows for the possibility of “temporary materials plazas” being fully built out as a “permanent materials plaza.” The program’s guidelines indicate time frames for the two types of plazas as one and three years, respectively, from application to implementation, and temporary materials plazas as a stage on the way to permanence. NYCDOT’s program guidelines note that “short term plazas can help garner local support for long-term plazas.”

Though not clearly documented yet, quick-build projects can affect the speed of capital project delivery by demonstrating real-world benefits of geometric changes. Several of the flagship public places created along Broadway in midtown Manhattan from 2008 – 2010 entered the capital project pipeline: construction in Times Square began in 2013 and is slated to be complete in spring 2016.

Generally, officials in our example cities indicate clearly that any future capital project on a street that has received a quick-build project will reflect that new geometry. But money remains scarce.

Memphis says it is working to assemble the funding to build out some of its MEMFix projects.

While San Francisco does not draw a clear organizational, definitional or funding line between rapid

implementation and capital projects, it is going in the direction of speeding implementation, especially safety projects, by phasing, with geometry-altering markings and objects being installed as quickly as possible, followed by more extensive construction elements. This approach is practiced by NYCDOT with its Select Bus Service projects, where bus lane markings and operational improvements to speed buses are followed later with curb realignment for enhanced bus stops.

Still in the early stages of its program, Seattle is focused on the rapid installation of the center city bicycle network rather than thinking about long-term construction.

It is safe to say that this is a largely unresolved issue at both practical and strategic levels. Certainly, there is a mismatch between the numbers of quick-build projects being developed and implemented and the scope and speed of city street-oriented capital reconstruction programs to succeed them with more durable materials.

Quick-build projects can affect the speed of capital project delivery by demonstrating real-world benefits of geometric changes.

In some respects, this is part of the broader problem of infrastructure funding in U.S. cities and for the country more generally. The quick-build phenomenon shows the hunger for renewal and transformation of city streets—at least as deep as public enthusiasm for high-budget items like bridges, rail and airports. For cities, rethinking project development

processes to take advantage of the tactical urbanism spectrum is still in progress. Centralized project development offices might help.

Cities may be able to innovate with capital programs involving greater numbers of smaller capital projects, though that is also frequently a multi-agency effort that takes time to craft. There are a variety of ways to prioritize capital replacement of quick-build projects by keeping track of temporary materials’ useful life and scoring capital projects higher where they make accepted changes permanent.

ARE QUICK-BUILD PROJECTS POPULAR?

Cities are making striking progress in remaking streets, but not without extensive public engagement and debate. Nearly all say that the speed of quick-build projects can elicit both concern as well as support.

Where supporters of biking see breakthroughs against a long-frozen status quo, bicycle lane opponents see railroading of an unwelcome agenda. The ability of a city to change details of such projects after implementation only partly alleviates concern about the overall goals.

Programs can generally respond to people with opposing points of view using data that shows beneficial effects and responsive, flexible project development. NYCDOT has at times remarked that its quick-build street programs are constrained less by project resources than by outreach capacity.

A more muted, but abiding, issue is the aesthetics of temporary materials. Not everyone finds colored asphalt and high-visibility plastic delineators attractive elements of city streetscapes. Sometimes opponents cite this as central reasons to oppose a project. Other times it may be a secondary issue. The question was recently raised

by officials from nearby museums regarding a bicycle lane with delineator posts and sections of vibrant green pavement along Schenley Drive in Pittsburgh. Without some innovation in the quick-build project materials palette, especially for protected bicycle lanes, such objections are likely to persist.

But despite debates, problems and the inevitable risks and discomfort of promoting change, the practices described in this report and their institutionalization in city governments are spreading rapidly, and doing so in more than the eight cities' programs profiled here.

Once a few successful quick-build projects are finished, their effects can stretch beyond the newly redesigned streets and into something just as valuable to a great city: the culture of its civil service.

Good quick-build projects are exciting, fulfilling and contagious. "We've become more open to seeing those low-hanging-fruit opportunities," said Austin's Beudet. "It's kind of like that thing where your dad buys a green Volkswagen and you see green Volkswagens everywhere. We have a bias for seeing those opportunities now."



2nd Avenue, Seattle, WA. Photo Credit: Adam Coppola Photography

FURTHER READING: DOCUMENTING NEW URBAN STREET STRATEGIES



Street Design Manual (2009; updated in 2013) NYC Department of Transportation

Makes the starkest, most definitional distinction between “operational” and capital projects, and contains design and contextual guidance for hallmark project types in the quick-build transportation repertoire: protected bike lanes, public plazas, pedestrian safety islands, sidewalk extensions using paint, epoxied gravel and plastic delineators and the safety-oriented street geometry changes.



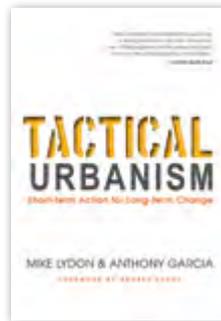
Performance-Based Practical Design (2015) Federal Highway Administration

The philosophy behind quick-build projects in urban areas can also be applied to freeway design. This online collection of principles and case studies explores these concepts in the language of state transportation departments.



Better Streets Plan (2011) San Francisco

Does not directly reference quick-build transportation project techniques, but calls for the types of street geometry changes that are accomplished quickly by their application.



Tactical Urbanism: Short-term Action for Long-term Change (2015)

Mike Lydon and Anthony Garcia, Island Press

The principals of Street Plans Collaborative gave shape and names to the ideas discussed here as part of the “tactical urbanism” movement in planning, architecture and advocacy. Their 2015 book on the subject traces its concepts and practices from ancient Iraq to modern Ohio.



Complete Streets Design Guidelines (2013) Chicago Department of Transportation

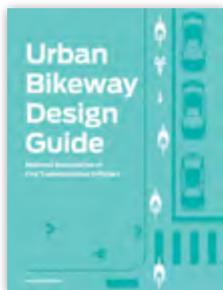
Describes institutional responsibilities, street types and decision-making guidance for delivering city streets designed for all potential transportation modes and users. Embeds biking, walking and safety policies and street geometric principles into the project development and local dialogue processes. Does not differentiate between quick-build and capital project decisions, but gives numerous examples of the former.



Design and Materials Guide to Tactical Urbanism (2016, forthcoming)

The Street Plans Collaborative, Knight Foundation

Lays out the methods (process, policy) and materials (type, cost, where to purchase) for quick-build street projects by both volunteers and pros in as much detail as possible, right down to the square foot and linear foot cost for epoxy gravel and traffic tape.



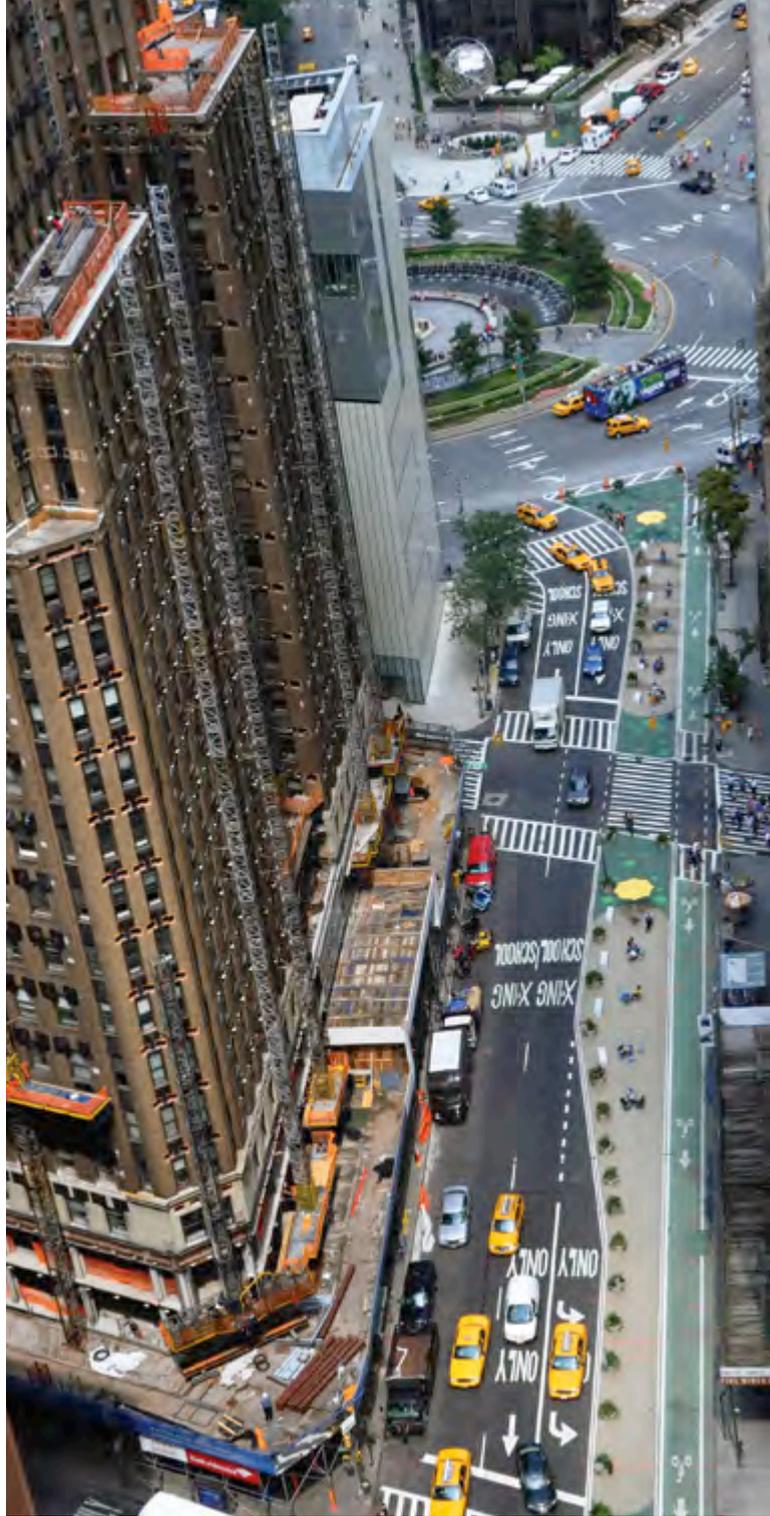
Urban Bikeway Design Guide (2011; updated 2014) **Urban Street Design Guide** (2013) National Association of City Transportation Officials

Made the development of city-specific design documents less essential. The latter work contains special mention of the quick-build approach to changing street geometry. All cities we interviewed cited the NACTO guides as useful resources.



Incorporating On-Road Bicycle Networks into Road Resurfacing Projects (2016)

A Federal Highway Administration guide to taking advantage of the perfect time to make quick-build changes to a street.



Broadway at Columbus Circle, New York City, NY. Built in 2009.



peopleforbikes

GREEN LANE PROJECT

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The Green Lane Project is a program of PeopleForBikes, a movement to unite millions of people to improve bicycling in America. The Project helps cities build better bike lanes to create low-stress networks. We actively support protected bike lanes and work closely with leading U.S. cities to speed the installation of these lanes in their communities and around the country.