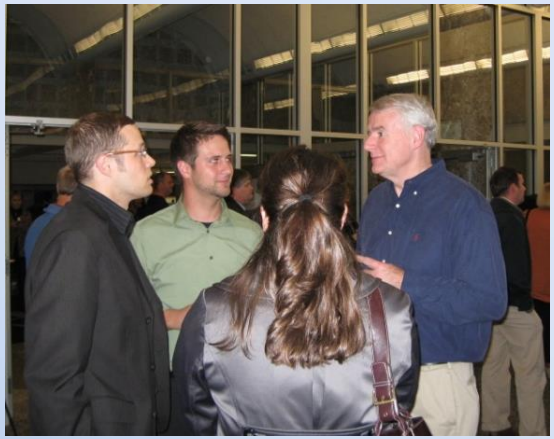
STREETCAR COMMITTEE
DECEMBER 9, 2014

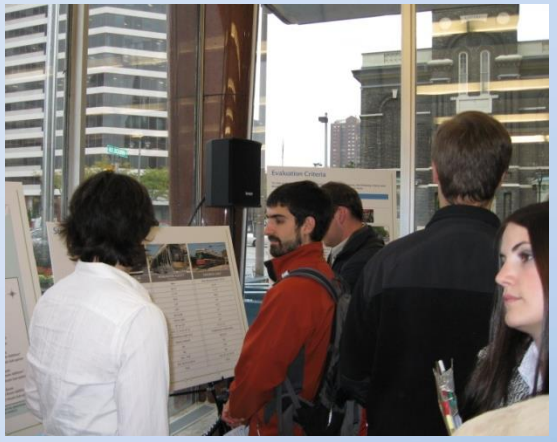
the milwaukee STREETCAR

www.THEMILWAUKEESTREETCAR.com

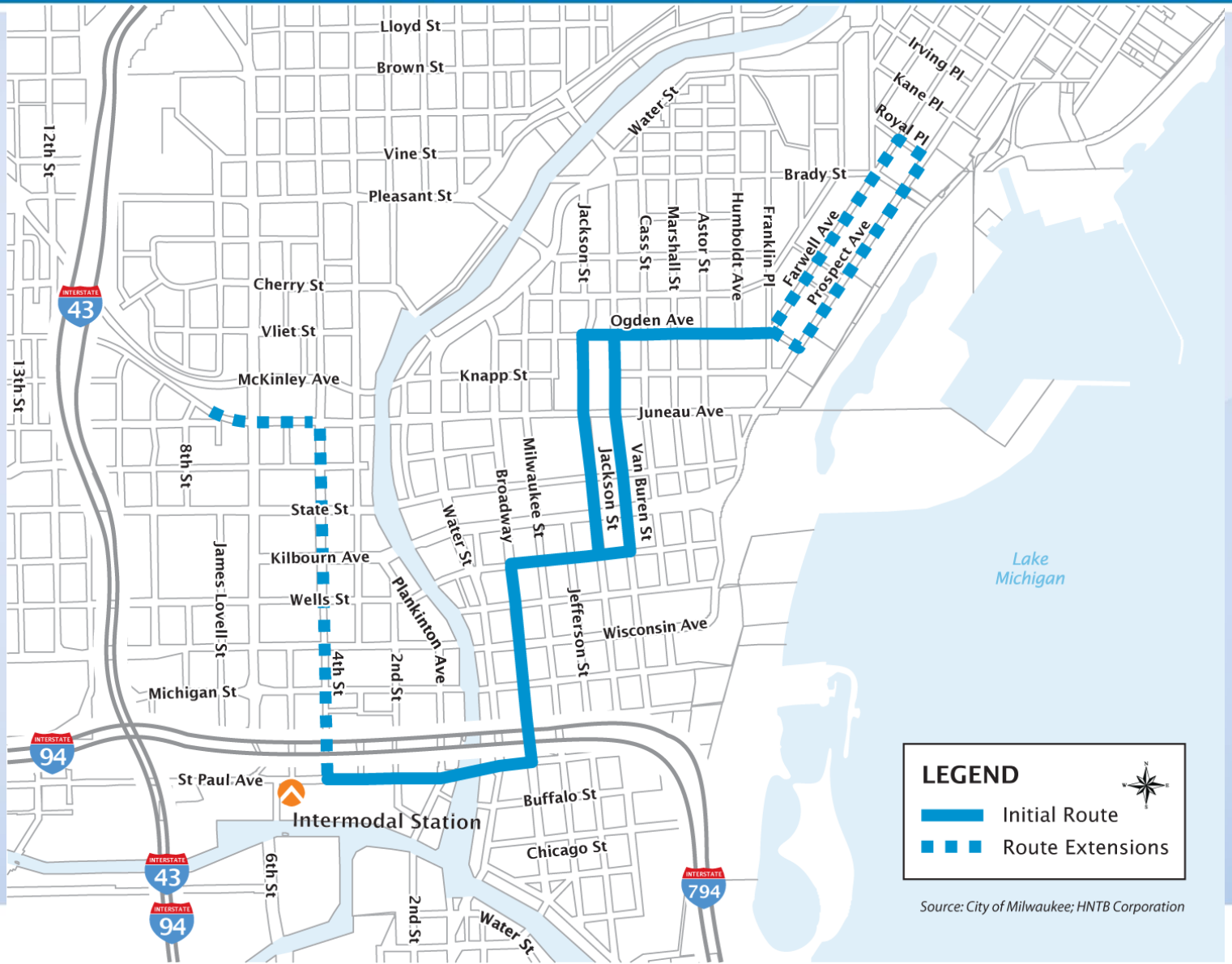
Project Progress

- March 2009: 60/40 congressional split of $91.5 million – appropriates $54.9 M for downtown streetcar
- 2010 to 2012: Planning, 30% Design, Environmental & Council Approval
- May 2012: Act 20 Approved
- August 2013: **60% Design Complete**
- April 2014: Initial Utility Negotiations Completed
- September 2014: PSC upholds Act 20
- December 2014: City Process





The Original Route



The Starter System

- Fixed guideway rail system
- Modern vehicles
- Stops every two to four blocks (17 stops)
- 10-15 minute frequency
- Preserves most on-street parking
- Over 1 million annual riders

Vehicle Features

- Low-floor and level boarding
- More capacity than a bus
- Electric power operations
- On-board bicycle access
- Multiple doors for fast boarding
- Comfortable and quiet ride

Modifications to Original Route

1. The Design Team has conducted over **50** meetings with Private Utilities (primarily We Energies) since 2009.
2. Moved 50% of track alignment to center running.
3. Moved northbound on Broadway to northbound on Milwaukee Street to minimize impacts to We Energies & AT & T facilities.
4. Eliminated some station/stop locations.
5. Flipped the Operations & Maintenance Facility orientation.
6. Reduced Overhead Contact pole locations to minimize impacts to vaulted walks.
7. Reduced roadway reconstruction limits
8. Minimized impacts to watermains
9. Completed 680 page – 60% Plan Sets

Work to Date

Completed Federal Documents:

- Project Management Plan, Safety and Security Management Plan, Disadvantaged Business Enterprise (DBE) Plan/DBE Goal Setting Methodology, Title VI Policy, Risk Register, Succession Plan, Quality Assurance Management Plan and Technical Capacity and Capability Statement.

Completed Non-Federal Documents :

- Utility Accommodation Peer Agency Review, Utility Coordination Guidelines, Policy for Utility Access during Streetcar Operations, Policy for Stray Current Corrosion Measures and Stray Current and Corrosion Control Evaluation.

Buy America

As the project is federally funded, we will have to comply with a variety of federal contracting requirements, including Buy America.

Buy America

- No funds may be obligated by FTA for a grantee project unless all iron, steel, and manufactured products used in the project are produced in the United States.

http://www.gpo.gov/fdsys/pkg/CFR-2012-title49-vol7/pdf/CFR-2012-title49-vol7-part661.pdf

60% Plans

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS =

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
PLAN OF PROPOSED INFRASTRUCTURE
MILWAUKEE STREETCAR
4TH ST. TO OGDEN AVE
MILWAUKEE COUNTY

60% PLANS
AUGUST 29, 2013

FEDERAL PROJECT

PROJECT	CONTRACT
WI-03-0095-01	
WI-95-X022	

CITY PROJECT NUMBER
WK52362008

BEGIN PROJECT
STA 100E88+00.00
Y = 384329.46
X = 2557115.26

END PROJECT
STA 305W84+86.72
Y = 388933.52
X = 2562404.32

CONVENTIONAL SYMBOLS

PLAN
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SLOPE INTERCEPT
REFERENCE LINE
COMBUSTIBLE FLUIDS
MARSH AREA
WOODED OR SHRUB AREA

PROFILE
GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such)
SPECIAL DITCH
GRADE ELEVATION

UTILITIES
AMERICAN TRANSMISSION COMPANY
AT&T
CITY OF MILWAUKEE COMMUNICATIONS
ELECTRIC
FIBER OPTIC
GAS
GAS ABANDONED
LIGHTING CONDUIT
MILWAUKEE METRO. SEWERAGE DISTRICT
COMBINED SEWER
OVERHEAD
PNETEC
SANITARY SEWER
STORM SEWER
TELEPHONE
TIME WARNER CABLE
VERIZON
WATER
WATER ABANDONED
WE STEAM
WISCONSIN DEPT. OF TRANSPORTATION

UTILITY PEDESTAL
POWER POLE
LIGHT POLE

LAYOUT
SCALE 0 1/4 MI

TOTAL NET LENGTH OF CENTERLINE = 3.784 MI

ALL COORDINATES SHOWN ON THIS PLAN ARE BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM (WSPCS), SOUTH ZONE, NAD 83(91) DATUM. TO CONVERT GROUND COORDINATES (N,E) TO GRID COORDINATES (X,Y), MULTIPLY GROUND (N,E) BY 0.99992362.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN ON THIS PLAN

ORIGINAL PLANS PREPARED BY
HNTB

CITY OF MILWAUKEE
MILWAUKEE STREETCAR

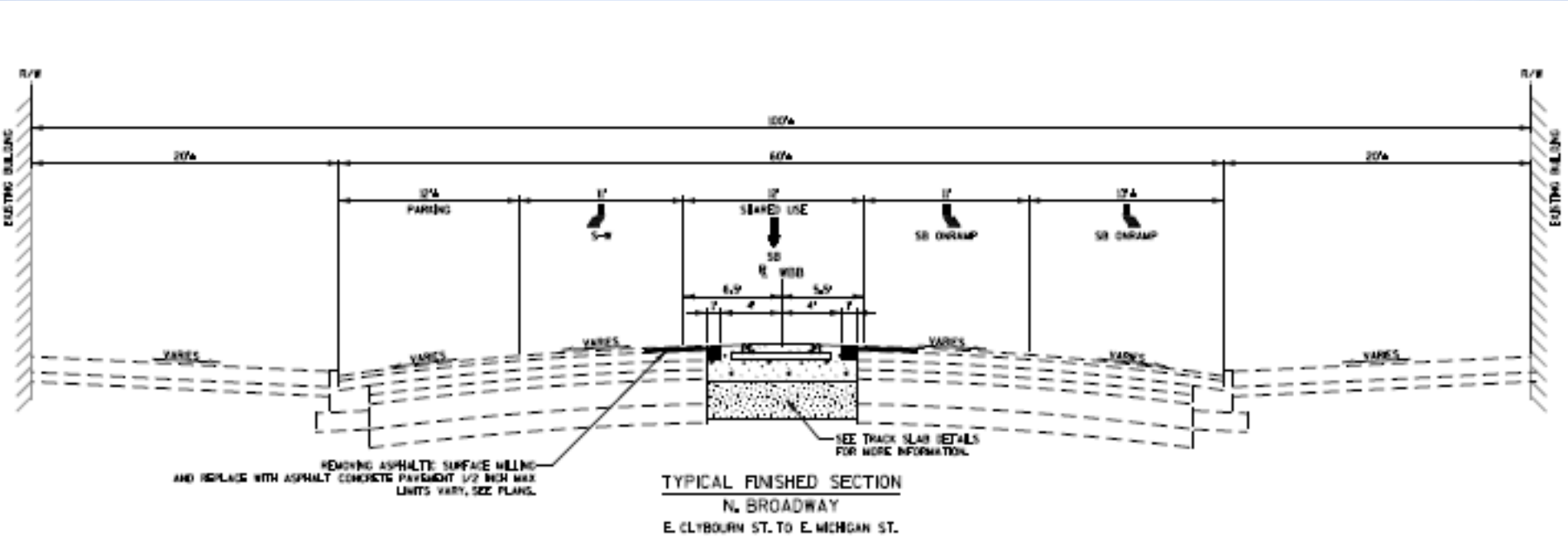
PREPARED BY
Surveyor: EMCS, TERRA ENGINEERING
Designer: HNTB CORP
Project Manager: DAVID WINDSOR, PE

APPROVED FOR THE CITY OF MILWAUKEE
DATE
Signature

PRE_1
E

PROJECT ID: WK52362008
COUNTY: MILWAUKEE

Typical Section - Broadway



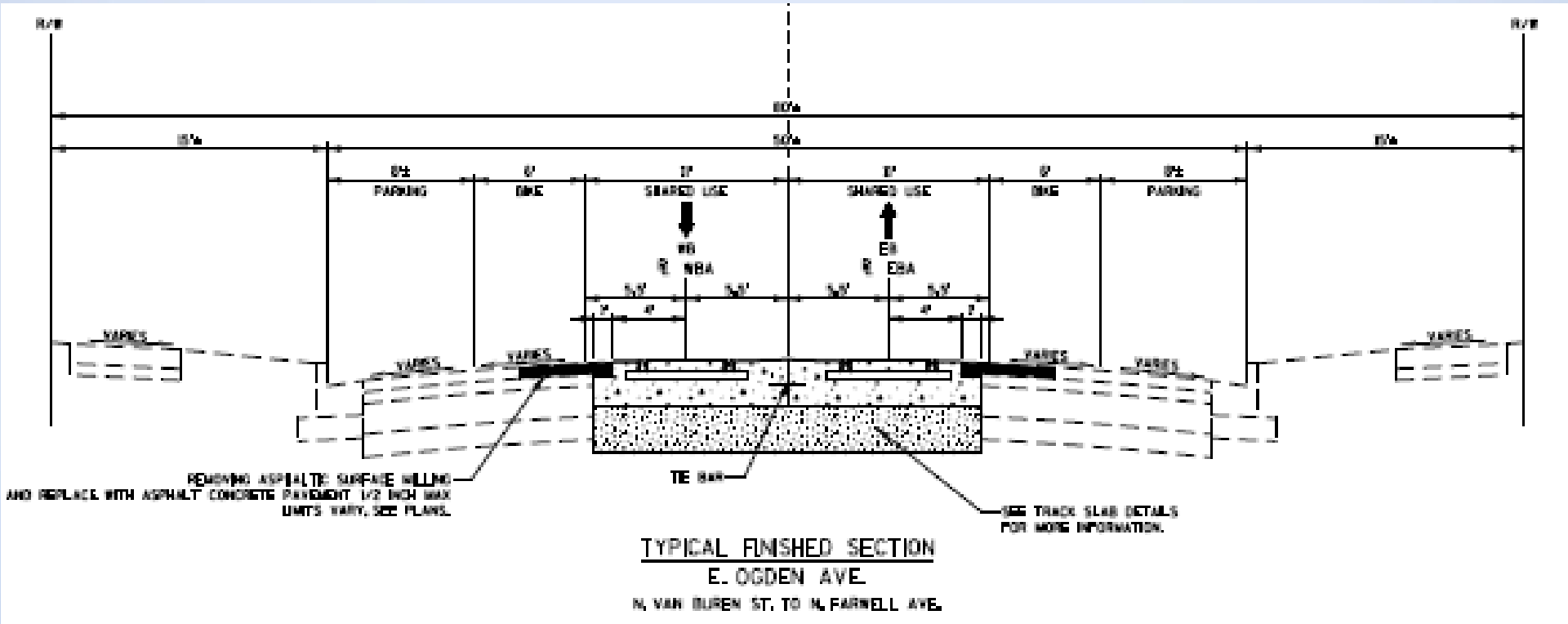
TYPICAL FINISHED SECTION

N. BROADWAY

E. CLYBOURN ST. TO E. MICHIGAN ST.


004
NW 23RD AVE.

Typical Section - Ogden

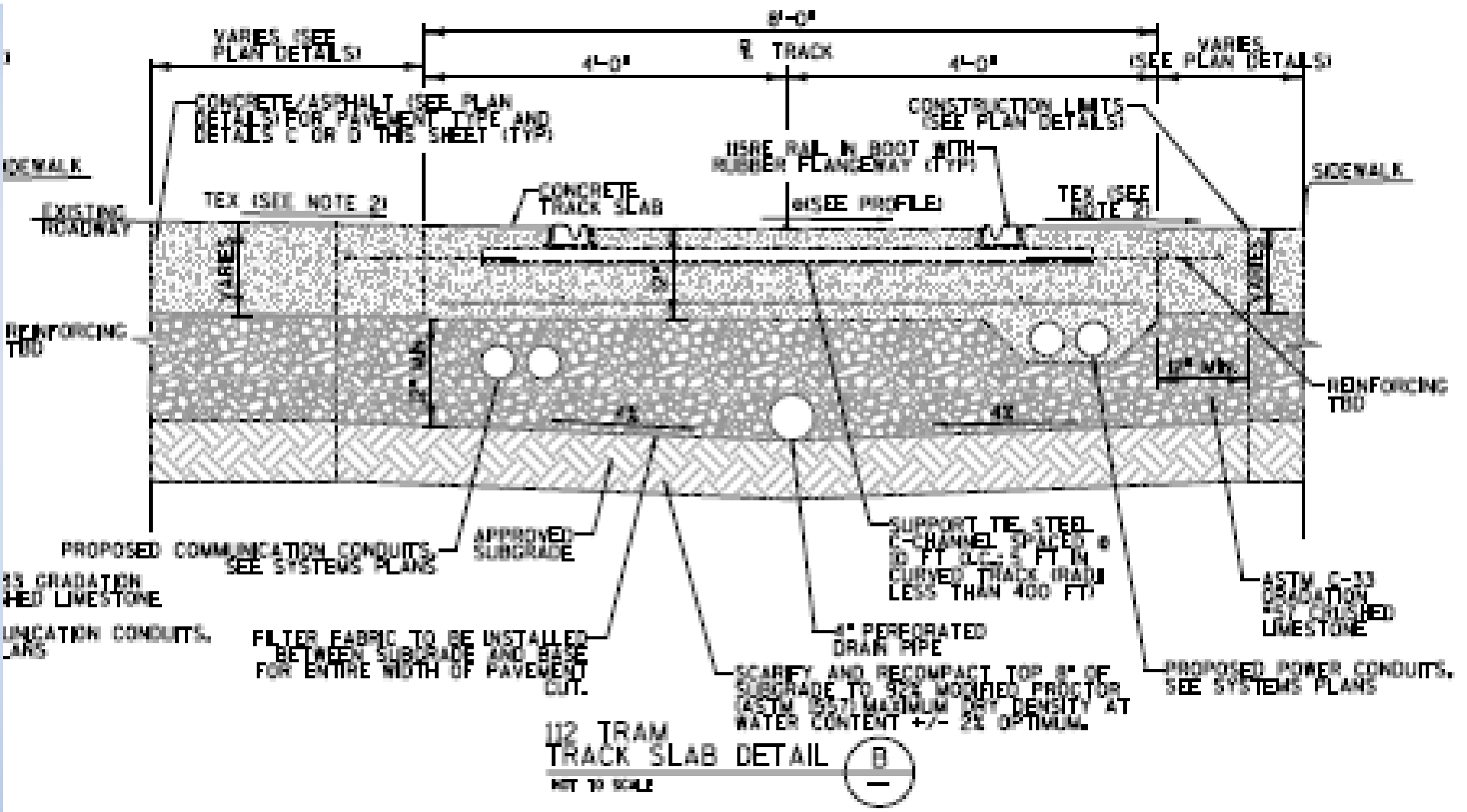


TYPICAL FINISHED SECTION

E. OGDEN AVE.

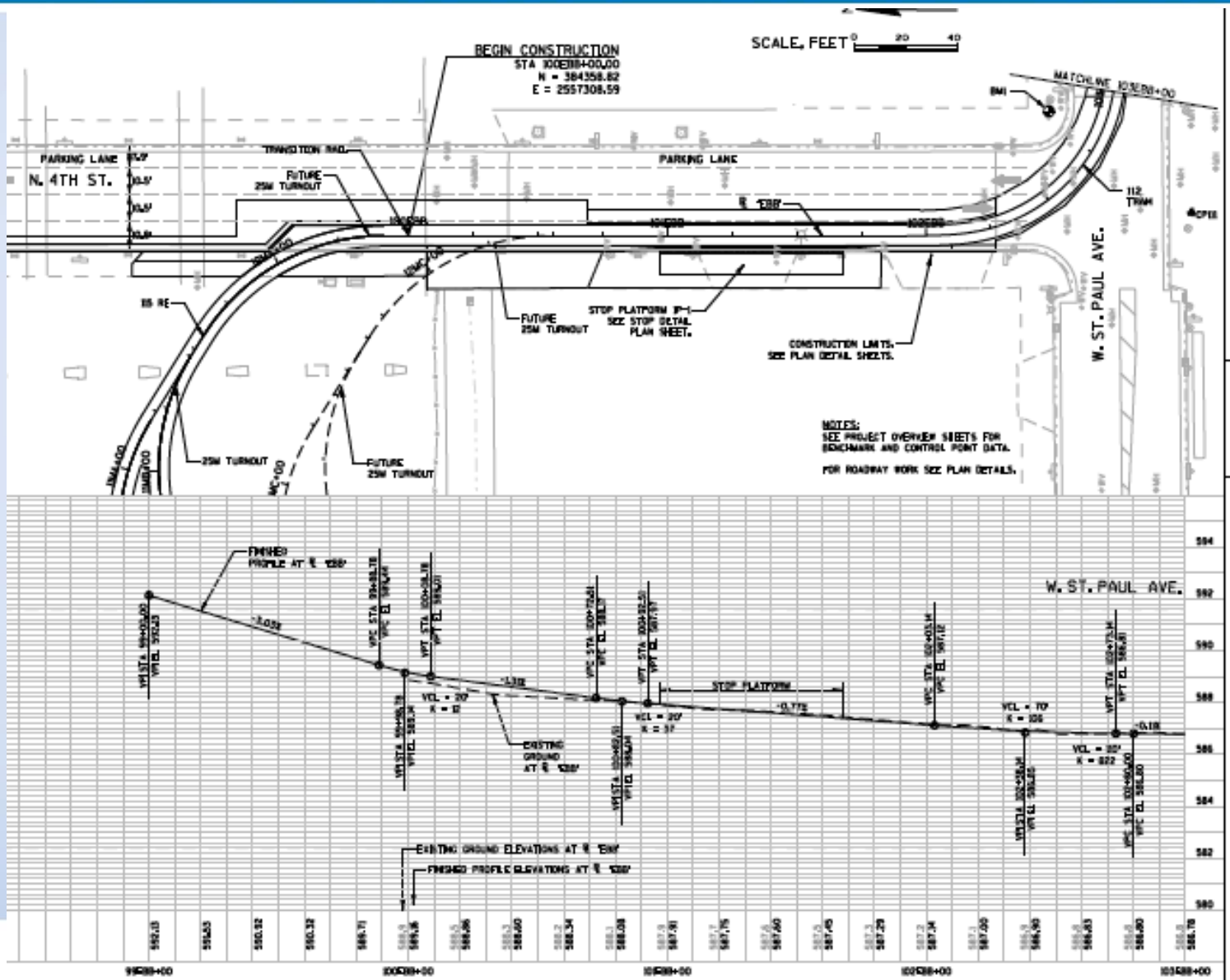
N. VAN BUREN ST. TO N. FARNELL AVE.

Track Slab Details

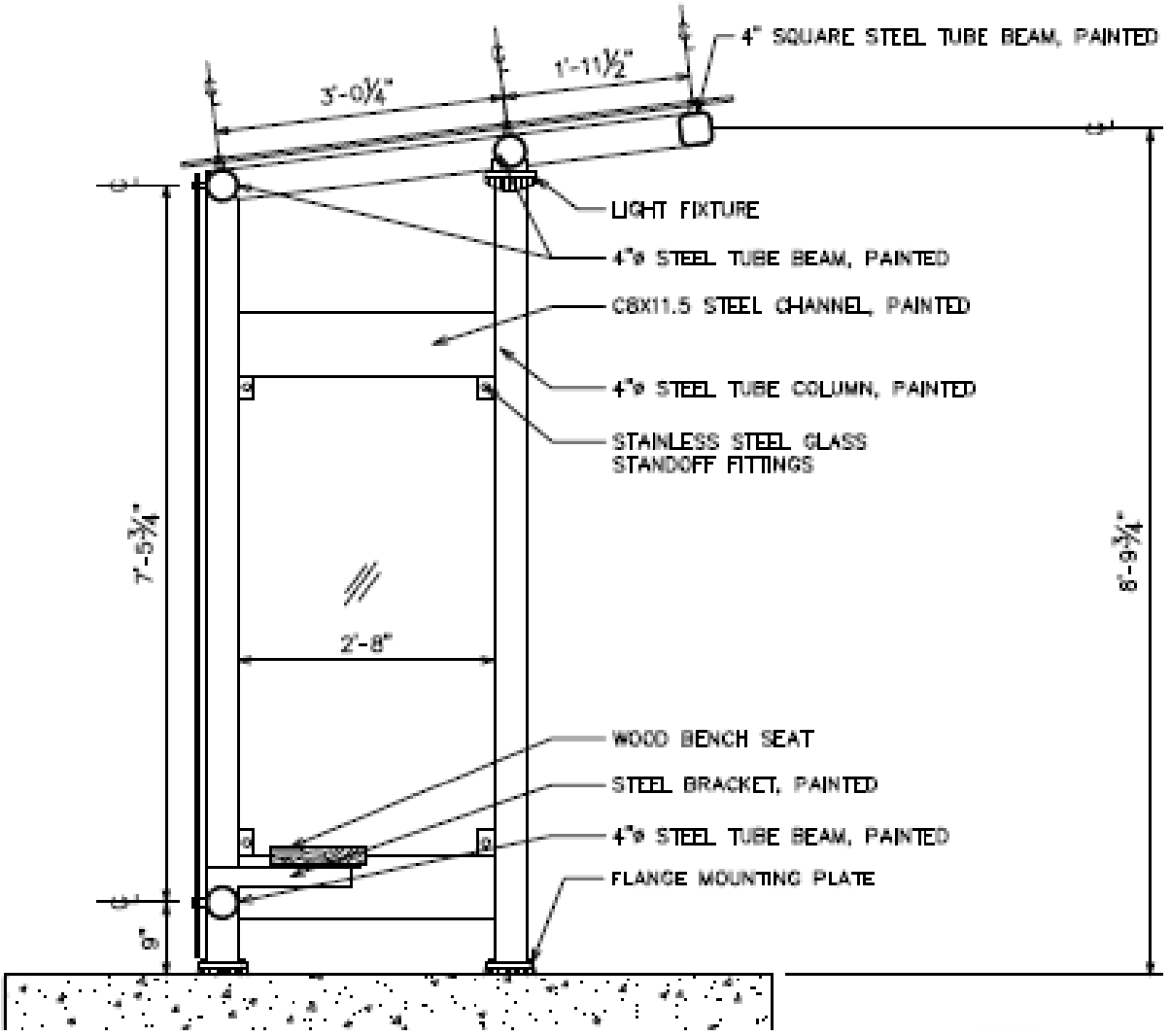



STOP

Plan and Profile

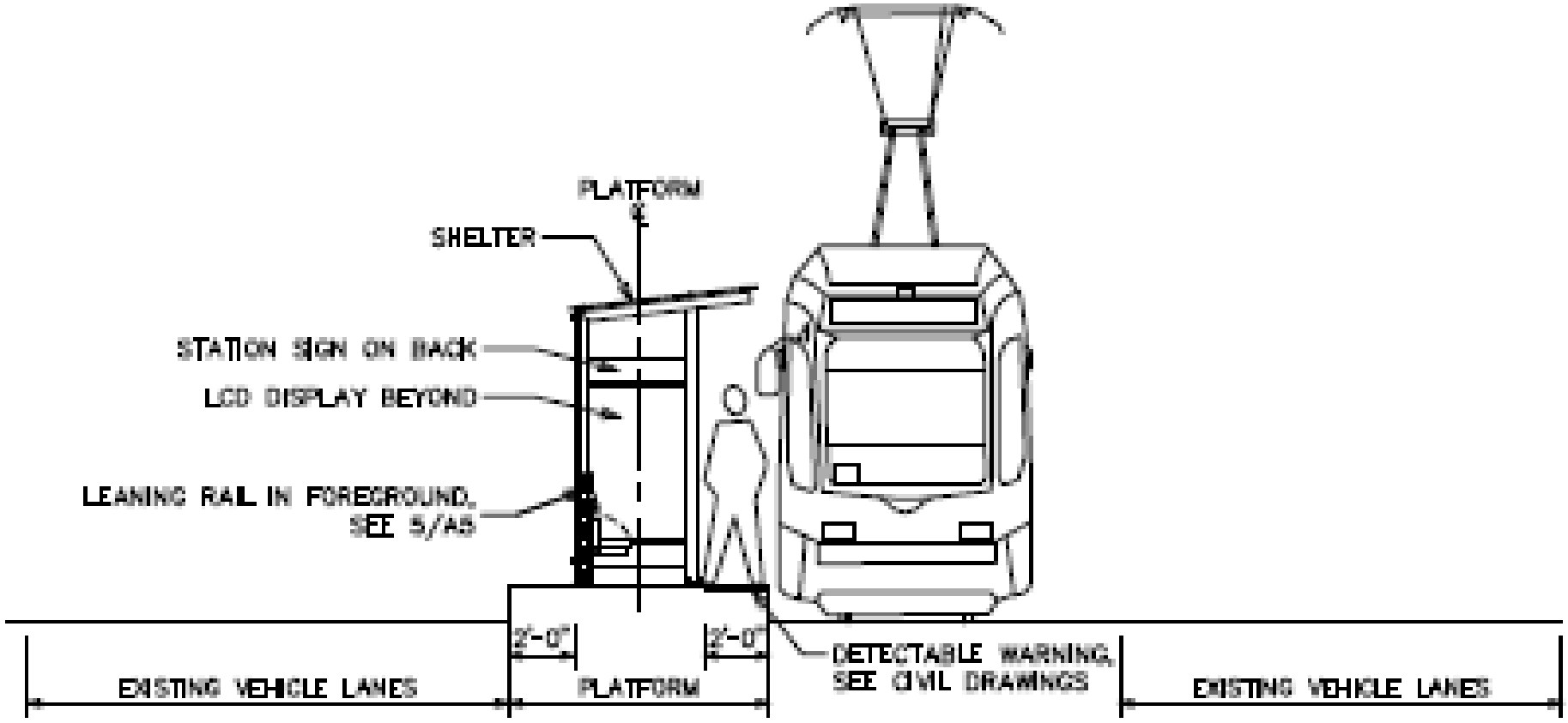


Stop Details




Olive
ONE WAY

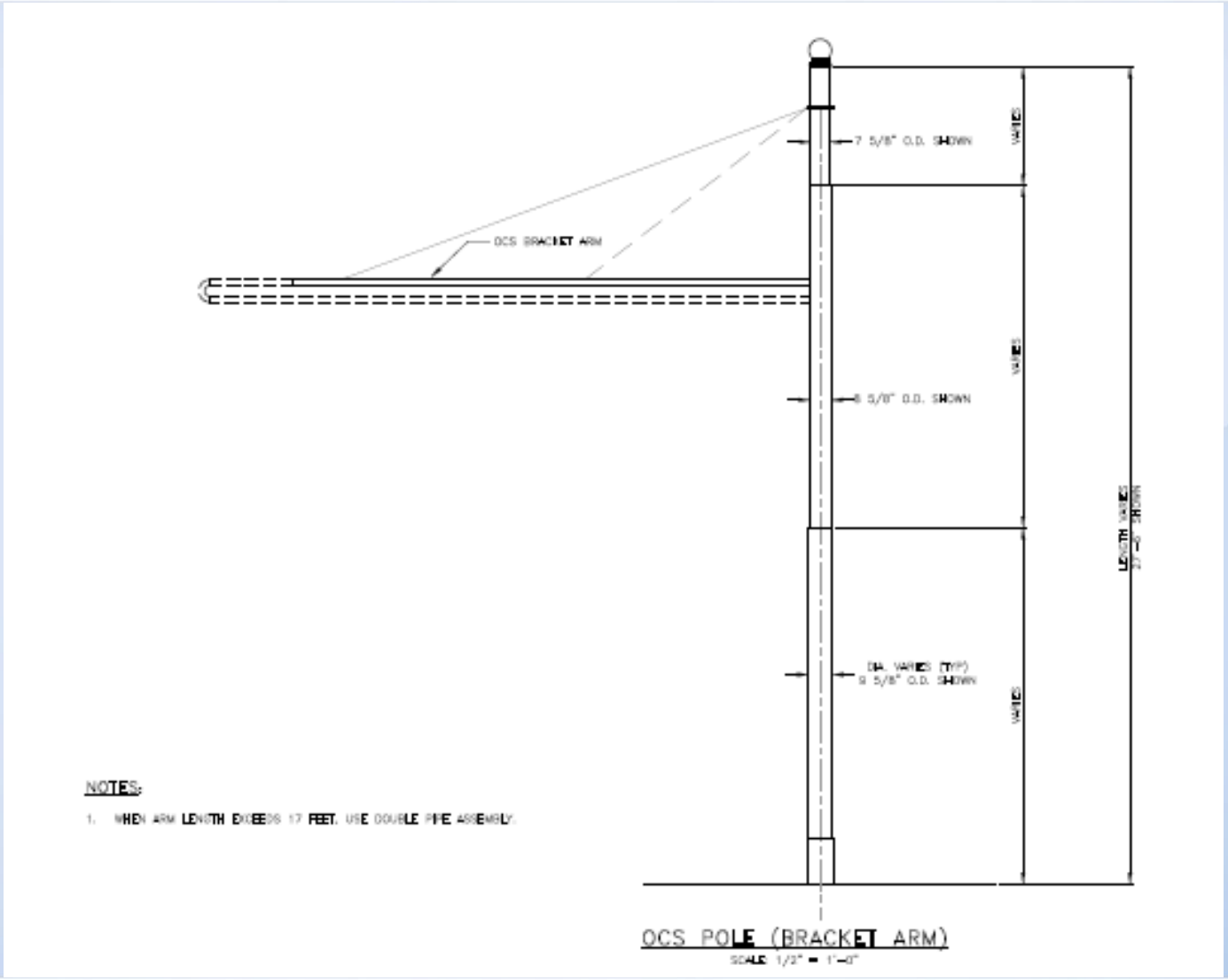
Stop Detail - Median

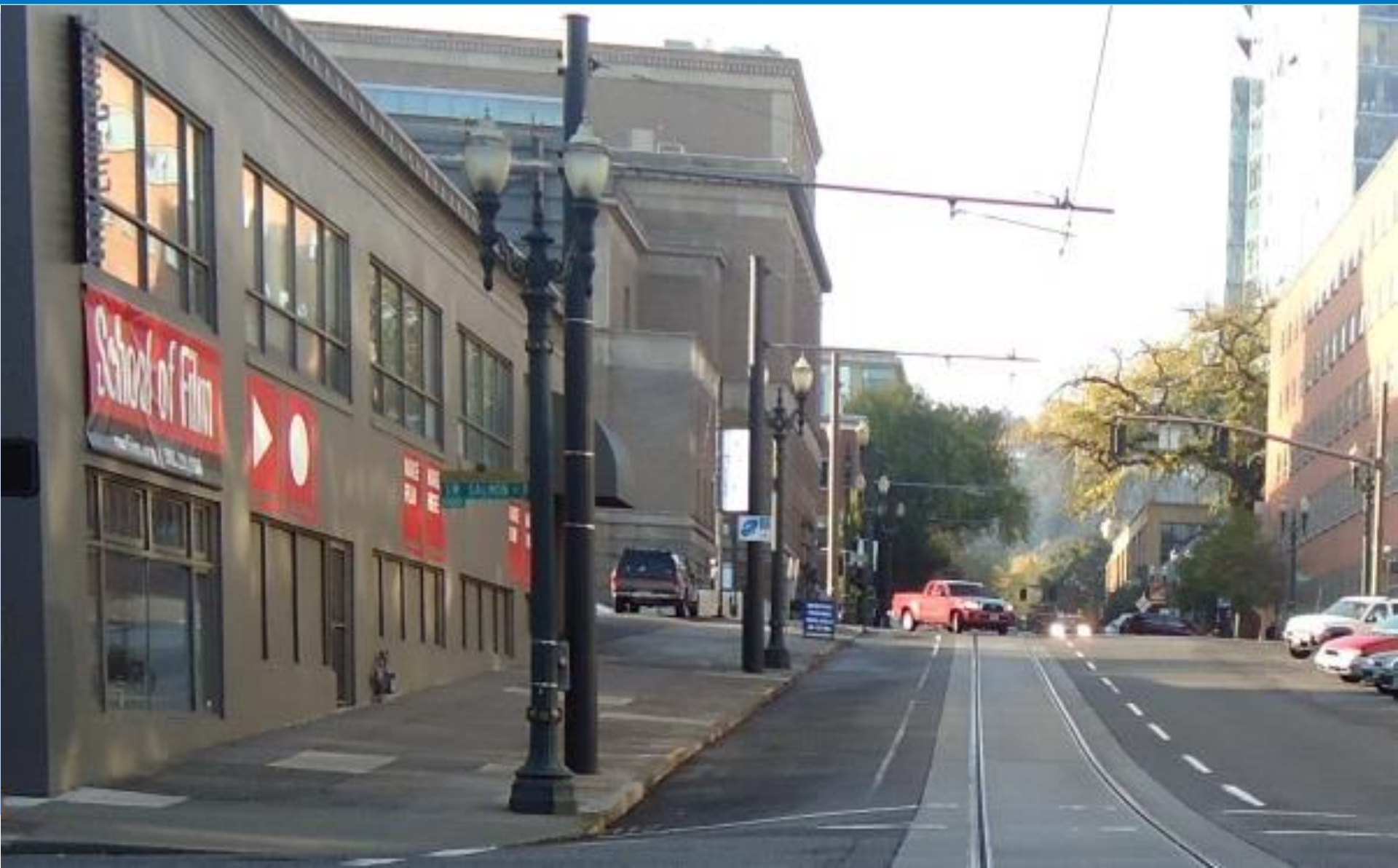


2 / A1 STREETCAR STOP SECTION – MEDIAN CONDITION

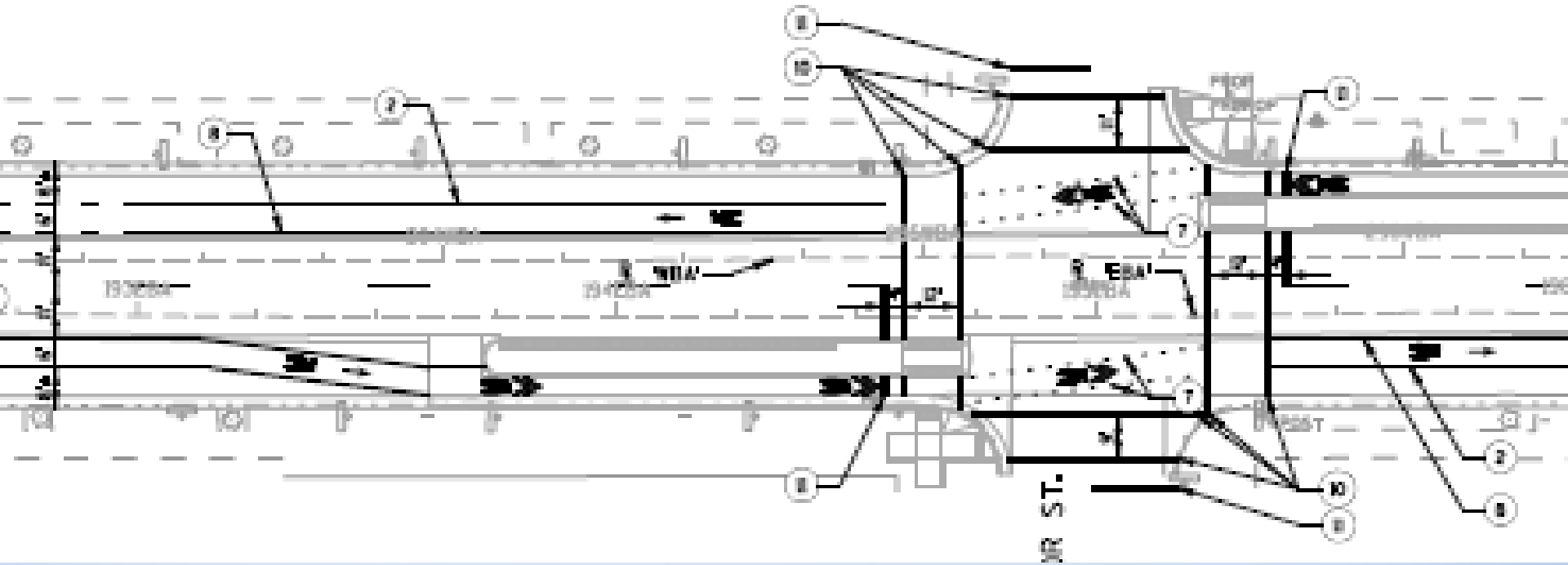
1/8"=1'-0"

OCS Pole Design




School of Film

Bike lane Configuration



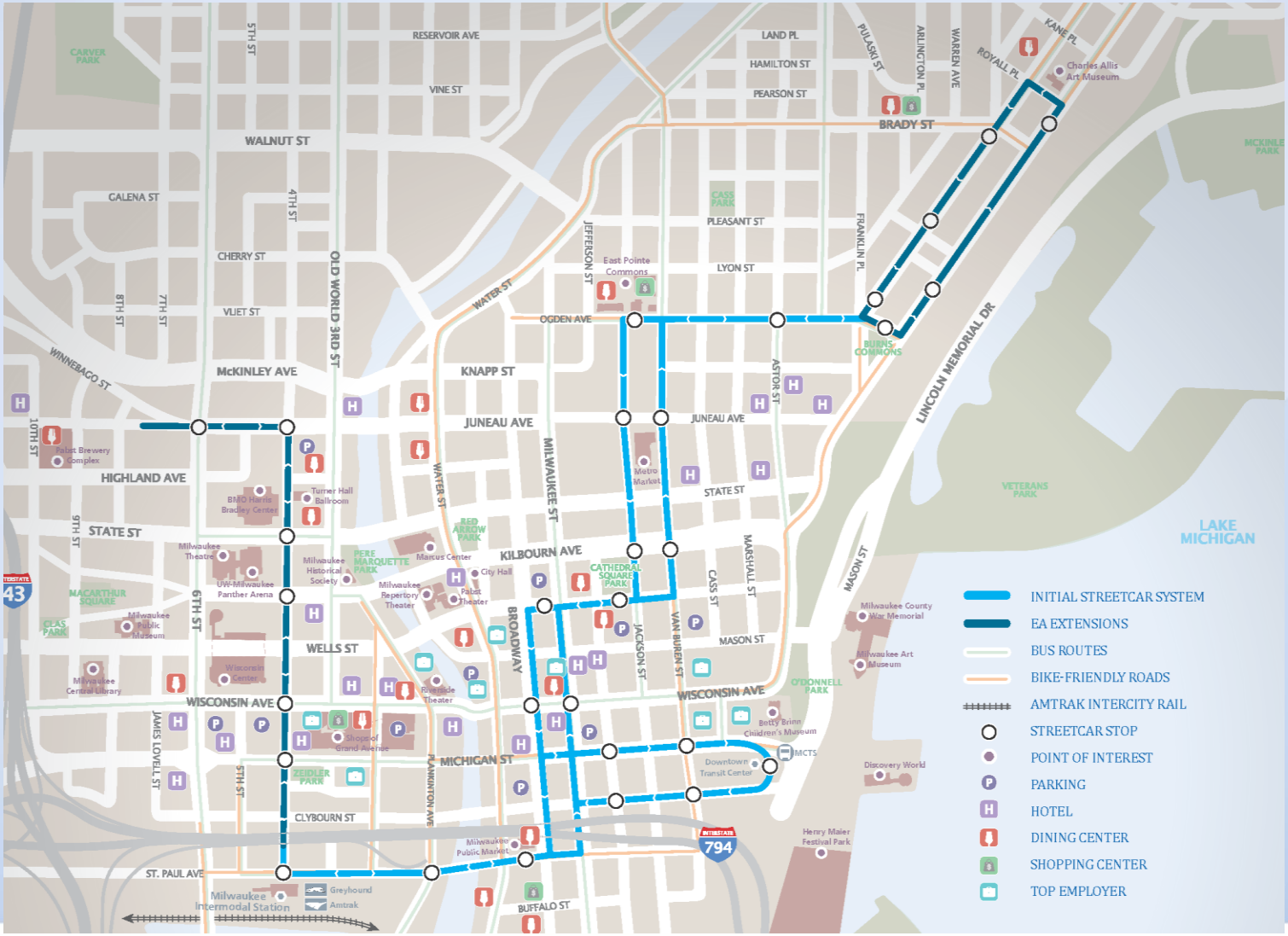

Portland Streetc


Great Clips


BARTELL DRUGS


3
2
1
DANGER
HIGH VOLTAGE
ABOVE

Phase I Starter System & Lakefront Streetcar Line



Ridership

http://www.wisbusiness.com/index.iml?Article=337595

- **Panel: Millennial professionals want trains, trails and fast-track careers**
  12/4/2014

When asked if they liked the idea of a trolley in Milwaukee, the three expressed strong support for public transportation of all kinds.

"What would be great is if I could take a trolley to get to the game," said Scudder, adding that public transportation and alternate kinds of accessibility other than driving are "very important" to his generation.

Hackbarth said public transportation enhances millennials' perception of a *city's affordability and reasonable cost of living. He said Seattle is considered attractive because suburbs are linked to the city by trains and trails.*

"I know a lot of people, myself included, who are looking to live someplace where we can take a bike everywhere," he said.

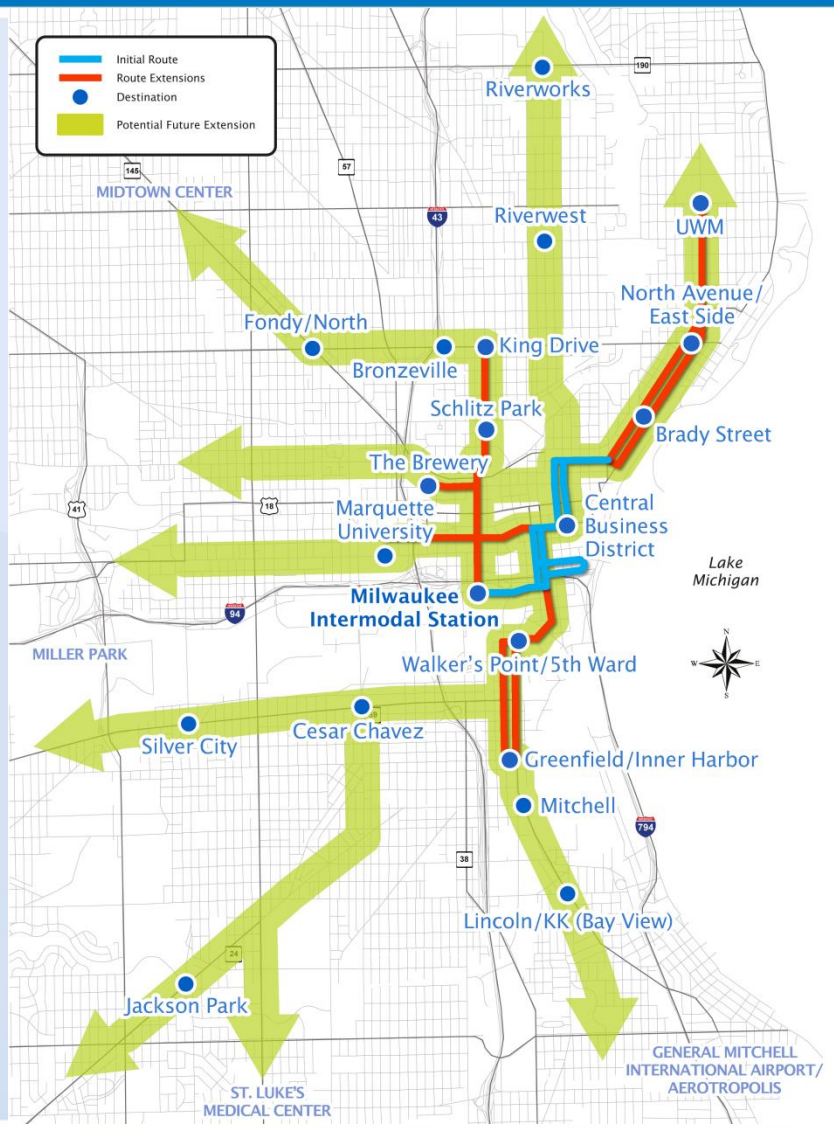
Potential Route Extensions

- A successful starter system is the foundation for future route extensions
  - Starter system could be expanded to nearby destinations and neighborhoods
  - Map shows potential extensions that build off the starter system

Potential Route Extensions

"Then you've got others who say this is a Trojan horse, 'all he wants to do is get this started and expand it,'" Barrett said. "And my response is, I want to get this started, I want to expand it."

-Mayor Tom Barrett



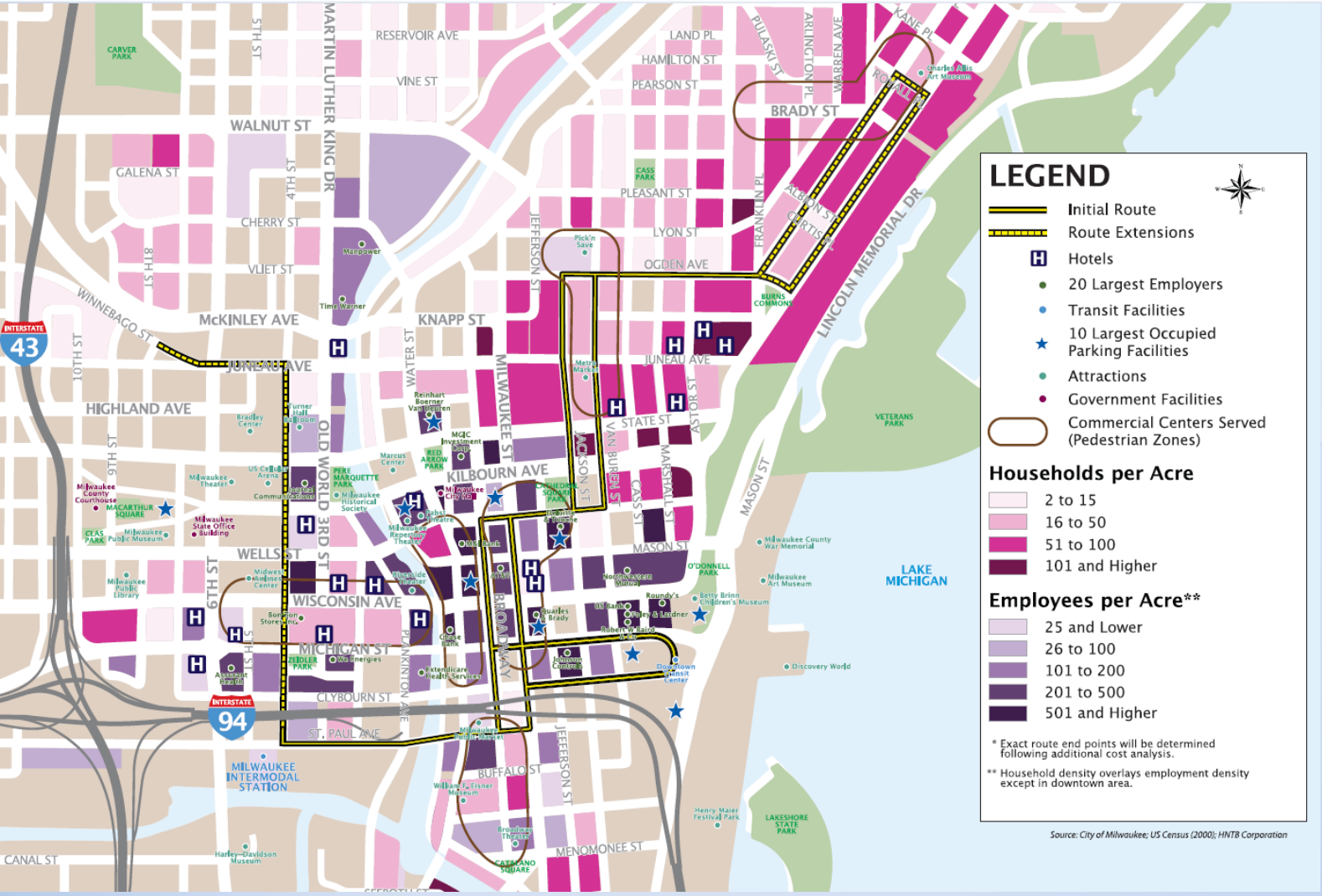
the milwaukee STREETCAR

Why Start Downtown?

Why Start Downtown?

- 80,000 employees
- 25,000 residents
- 1.4 million Intermodal Station passengers annually
- 5.5 million visitors per year
- 726,500 annual hotel stays
- 2% of City land but 13.3% of City tax base

Activity Generators



Within a ¼ mile of route:

- 100% hotel rooms
- 91% retail space
- 90% of office
- 77% of downtown housing
- 77% of downtown parking
- Lakefront and Riverwalk

Job Benefits

- Supports 80,000 existing downtown employees
- Creates temporary construction jobs
- Generates long-term operations jobs
- Workforce training program plan

Type		Initial Route + Lakefront Line
Direct	System construction	720
	Vehicle Construction	110
	Operations and maintenance	24
Indirect	Suppliers	810
Induced	Discretionary spending	780

Job Creation

- Workforce Training Program

The City of Milwaukee Department of Public Works (DPW) in partnership with the Milwaukee Area Workforce Investment Board (MAWIB) will create the Streetcar Training and Advancement for Regional Transportation Systems (STARTS) program. This workforce program will be modeled after other highly successful credentialing and certification programs and will help ensure underrepresented populations have the opportunity to pursue a career pathway in the region's intermodal transportation system. DPW is apply for a Grant through the U.S. Department of Transportation Federal Transit Administration Ladders of Opportunity Program that would fund 50% of the program costs.

- Local/DBE hiring/contracting

The City of Milwaukee Department of Public Works is committed to a Diversity Program for the participation of Disadvantaged Business Enterprises (DBE) in the DPW contracting opportunities related to the Milwaukee Streetcar in accordance with Code of Federal Regulations. It is the policy of the DPW to ensure nondiscrimination on the basis of race, color, sex or national origin in the award and administration of U.S. Department of Transpiration assisted Contracts. It is the intention of the DPW to create a level playing field on which DBEs can compete fairly for contracts and subcontracts relating to the DPWs construction, procurement and professional services related to the Milwaukee Streetcar project.

Job Benefits

Wisconsin firms currently with streetcar contracts in the U.S.

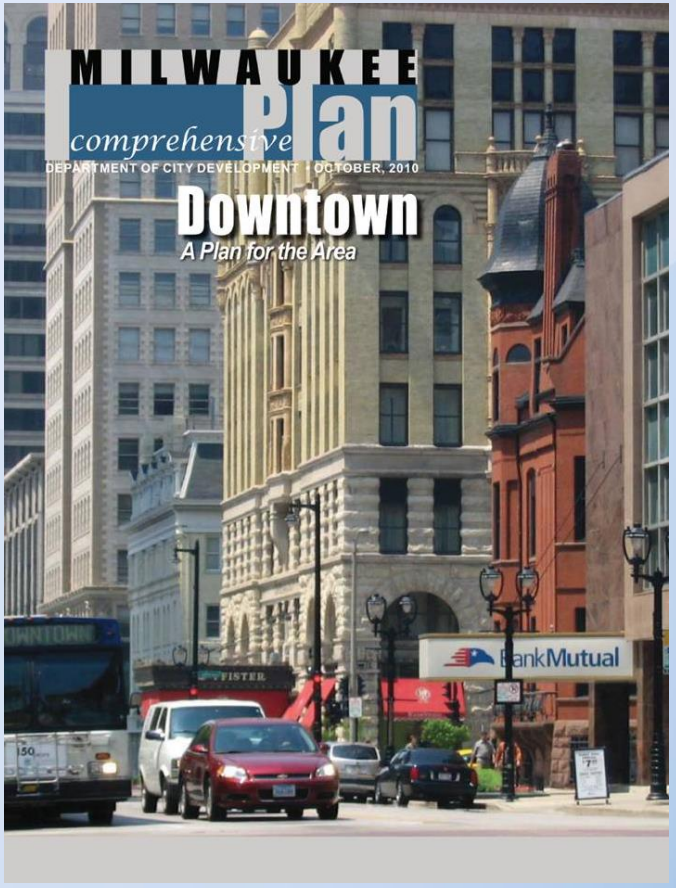
Firm	HDQTRS or Local Facility	Transit Work
A & A Manufacturing	New Berlin	Supplies bumpers, truck gaskets & security screens for vehicles
Ellsworth Adhesives	Milwaukee	Component supplier for vehicles
Fiber-Tech	Franksville	Fiber glass molds for vehicles
LEM USA	Milwaukee	Electrical applications for systems & vehicles
Milwaukee Composites	Oak Creek	Manufactures Vehicle Flooring
Rockwell Automation	Milwaukee/Mequon	Propulsion Systems & Vehicle Electrical Components
Schunk Graphite Technology	Menomonee Falls	Pantographs/Electric Current Transmission
Technical Metal Specialties	Milwaukee	Vehicle furniture, accessories and components
Wago Corporation	Germantown	Shock & vibration systems for vehicles
Wausaukee Composites	Wausaukee	Vehicle components

Job Benefits

Firm	Location	Equipment
AAA Sales & Engineering Inc.	Oak Creek	Manufacture railroad equipment
ABB	New Berlin	Vehicle components
Adaptive Microsystems	Milwaukee	ITS & Real Time Displays (Next Vehicle)
Avalon Rail	West Allis	Vehicle Repair Services
Brady Corp	Milwaukee	Transit Vehicle Applications
Cudahy Car Shop	Cudahy	Manufacture railroad equipment
Duncan Solutions	Milwaukee	Ticket Vending Machines/Parking Meters
FIS	Brown Deer/ Milwaukee	Payment Systems
Friction Stir Link	Brookfield	Welding, Fabrication
Johnson Controls	Glendale/Milwaukee	Real Time Voice, Video & Data Communications
Nelson Bros. and Strom	Racine	Manufacture machinery parts, train suspension systems
Nordco	Oak Creek	Design & manufacture railroad equipment
NRE Wheel Works	Milwaukee	Services railroad wheel sets
Pieper Power	Milwaukee	Overhead Contact System (OCS) & Power
Racine Railroad Products	Racine	Manufacture railroad equipment
Snap-on Tools	Milwaukee/Kenosha	Maintenance Facility Tools
Super Steel	Milwaukee	Assembles Vehicles
Trackside Services	Milwaukee	Rail Brakes
Volkmann Railroad Builders	Menomonee Falls	Rail Contractor

Supports Planned Development

- Comprehensive plans call for improved transit to support development goals
  - Downtown Plan
    - Streetcar is a catalytic project
    - Build up CBD and link dispersed destinations
  - Northeast and Third Ward Plans
    - Recommend transit to encourage new development
  - Citywide Policy Plan
    - Encourages fixed transit to promote transit oriented development
- Developers anticipating streetcar
  - Influencing location decisions



Project Capital Costs

Capital Cost

- $123.9M Initial Route + Lakefront Line
  - $54.9M federal funds (existing)
  - $10.0M proposed federal funds
  - $59M local share
    - Use of tax increment financing

Capital Cost Breakdown	Phase I Starter ($ millions)	Lakefront Line ($ millions)
Construction	$61.3	$14.4
Vehicles	$17.6	$4.1
Professional Services	$12.7	$2.7
Contingency/Escalation	$7.2	$3.9
Total	$98.8	$25.1

Project Operating Costs

Annual Operating Cost

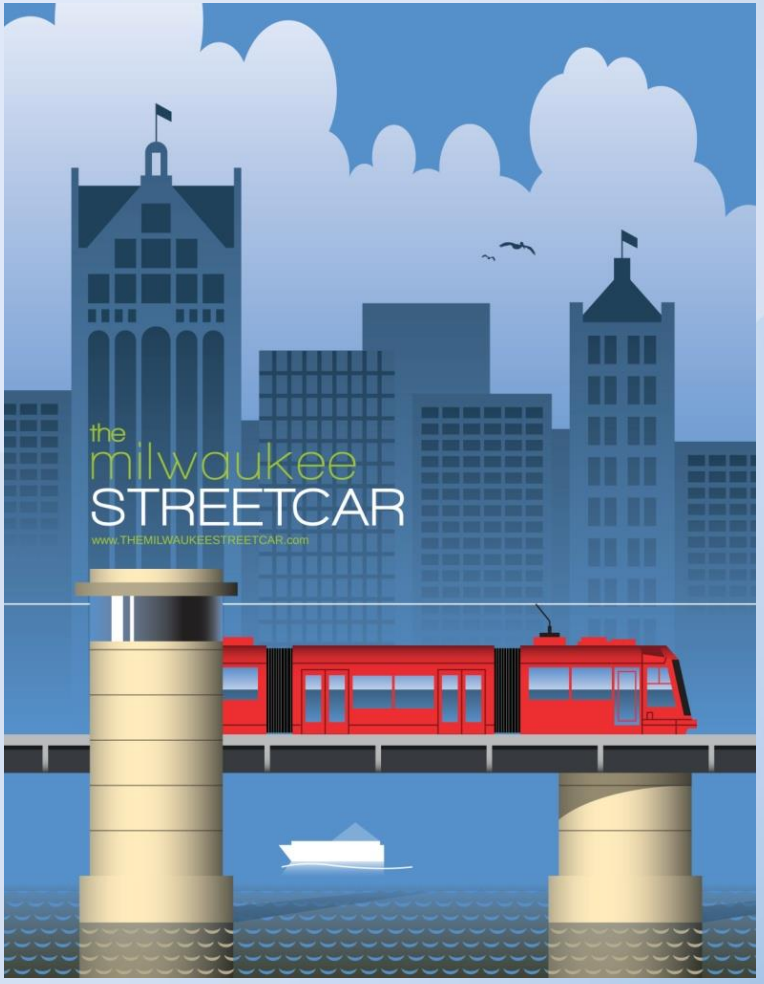
- $2.83M for initial route
  - $878K – from Ads, Sponsors, Farebox
  - $1.952M – net funding needed
- $550,000 for lakefront line
  - $150K – from Ads, Sponsors, Farebox
  - $400K – net funding needed
- Proposed funding: sponsorships, farebox revenues and city parking fund
  - No taxpayer impact
- City would contract for system operations and maintenance

Operator / Vehicles

- Conduct Requests for Proposals
  - Potential Private Operators
    - RDMT (RATP Dev McDonald Transit)
    - HTSI (Herzog Transit Services Inc.)
    - Veolia Transportation
    - First Transit
    - Other
  - Potential Vehicle Vendors
    - Siemens
    - Inekon
    - CAF
    - United Streetcar
    - Brookville
    - Bombardier
    - Other
- Critical to Integrate with Milwaukee County Bus Service

Next Steps

- Ongoing Public Outreach
- Vehicle Selection - 2015
- Final Design - 2015
- Construction – 2015-2017
- Streetcar Operations – 2018



QUESTIONS

the milwaukee STREETCAR

For more information visit:

www.THEMILWAUKEESTREETCAR.com

- ✓ **Facebook/Twitter**
- ✓ **Website**
- ✓ **Write a letter/email**
- ✓ **Invite us**
- ✓ **Talk it up**