maps 3
OKLAHOMA CITY

JACOBS

MAPS 3 Transit/Modern Streetcar Mainline Preliminary Design

May 2015

Report Significance (From April Meeting)

- Set design criteria
- Lock horizontal alignment
  - Start ROW process
  - Start geotech borings
  - Start rail procurement
  - Start utility potholing
  - Confirm rail location in traffic lanes
- Check cost budgets
- Launch final design

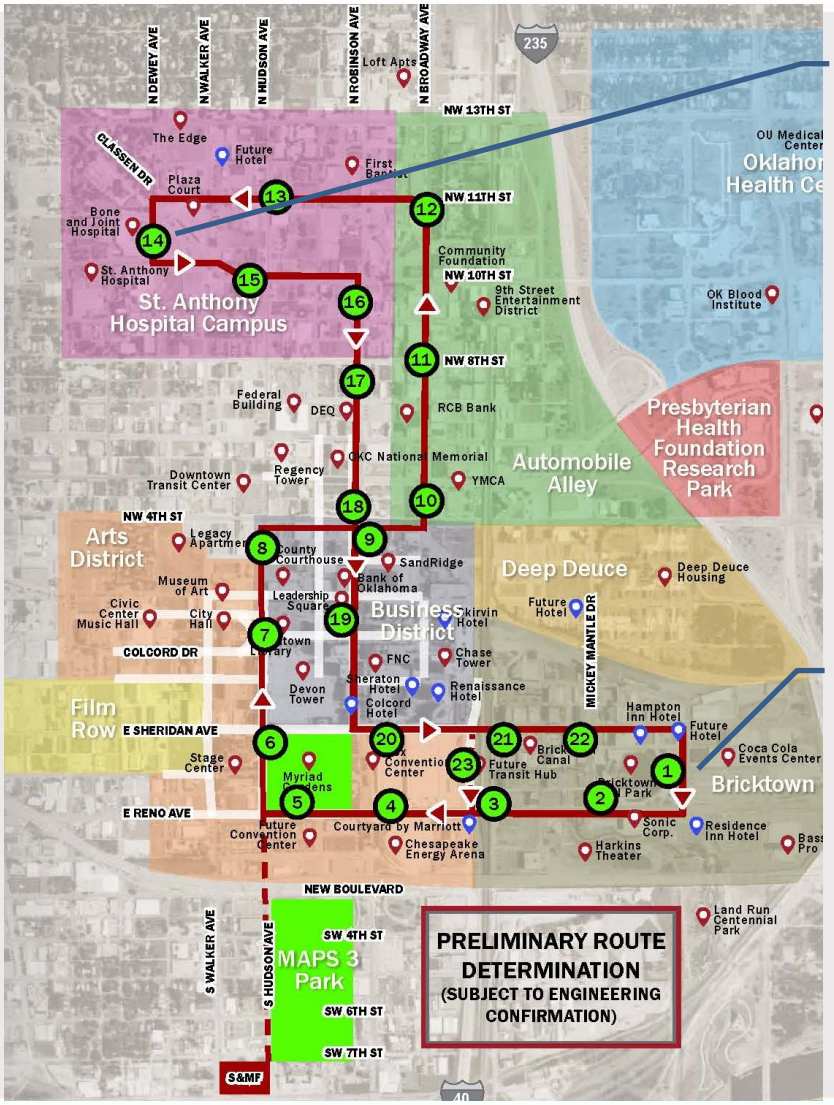
Report Contents (From April Meeting)

- Design criteria
- Stop concept
- Bridge structural evaluation
- Traction power substations (TPSS)
- Overhead contact system (OCS)
- Utilities (public and private) inventory
- Traffic analysis
- ADA inventory
- Rights of way (TPSS and corners)
- Cost estimate

Key Issues for Approval

- Lock route alignment
- Confirm stop map
- Consider turnback options
  - 4th Street
  - 6th Street
- Update Min/Max Off Wire
- Confirm traffic mgmt.
- Review costs

Route and Stop Locations



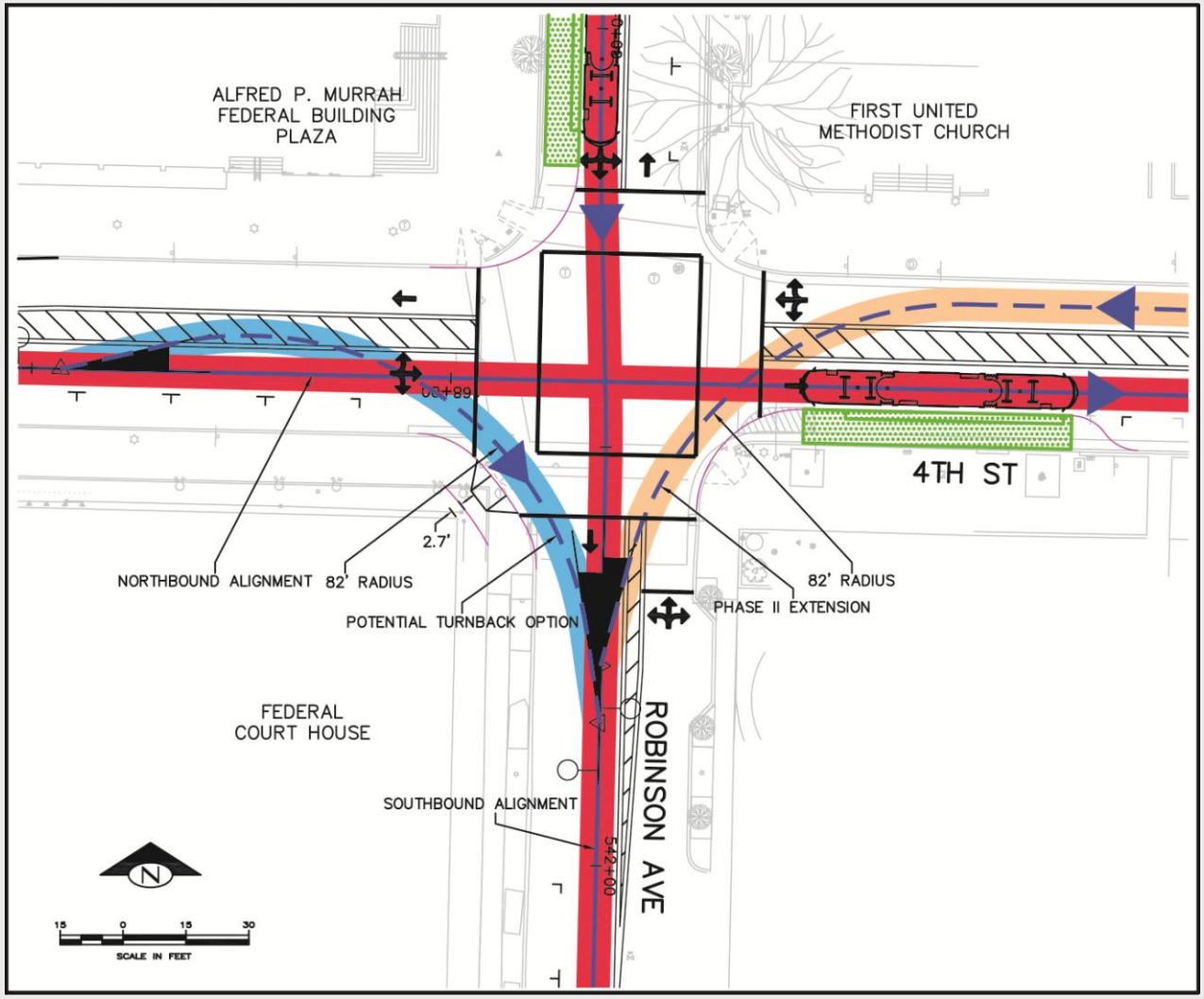
Terminal (Dwell) Point

Terminal (Dwell) Point

Turnback Options

6th Street Turnback Option

4th Street Turnback

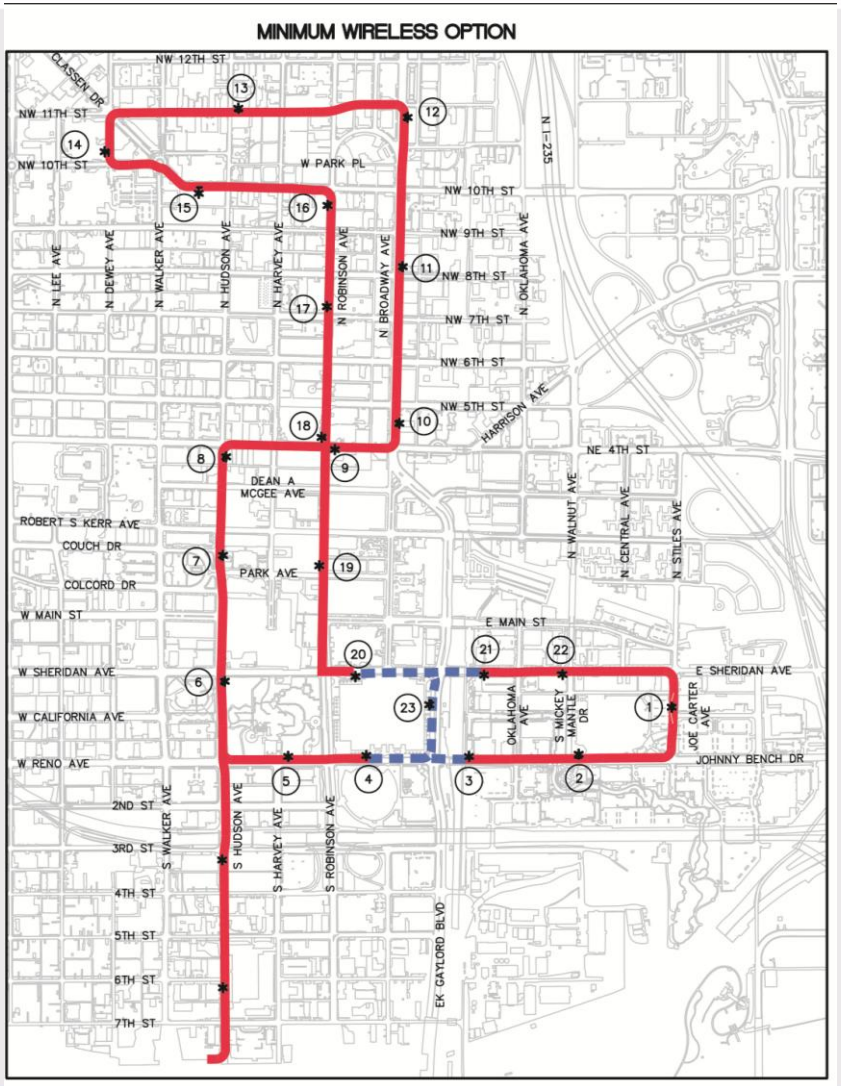


Turnback Options – Path Forward

- Evaluate 6th Street vs. 4th Street Option
- Include in design as additive alternate if budget permits

Minimum Off Wire

- 3 to 4 and 20 to 21 are minimum required



PRELIMINARY

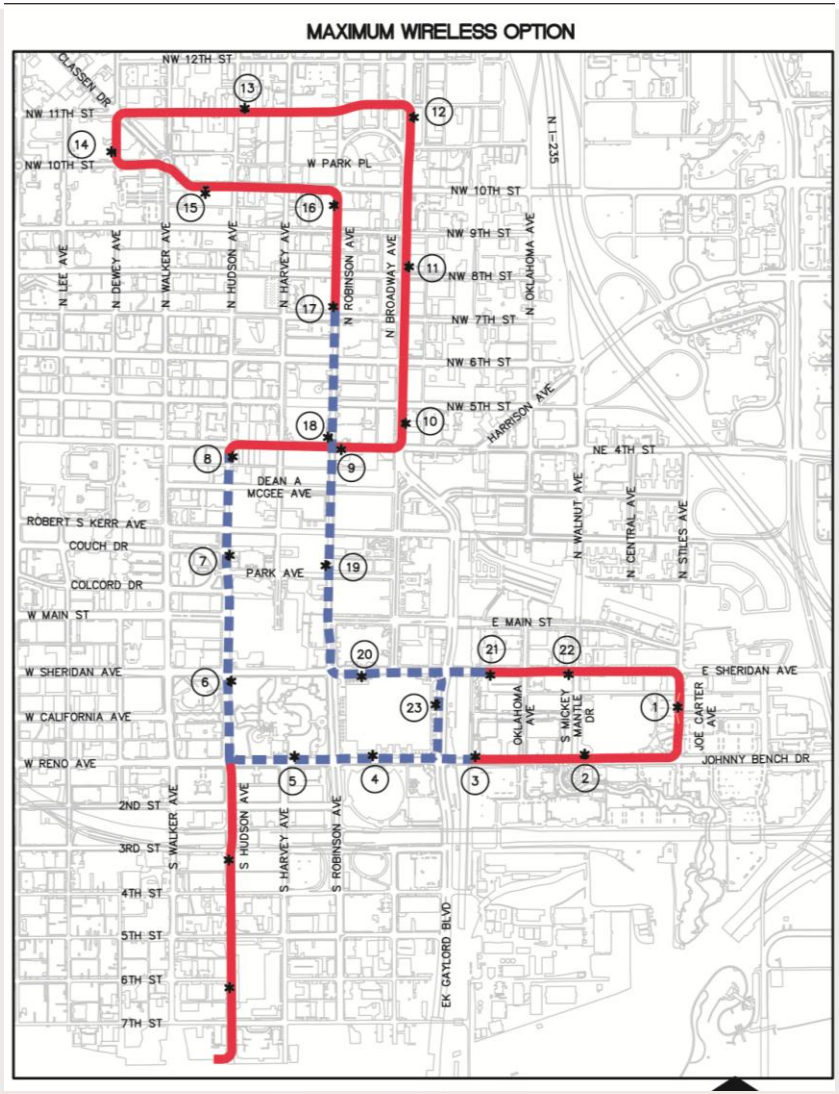
Maximizing Vehicle Capability

- Stop to Stop
- Travel Time
- No extra time charging time from mainline (dwells)
- Ease of operations and maintenance
  - Minimize pantograph movements
  - Minimize OCS maintenance
- Vehicle capability (under confirmation by Inekon)
  - Battery performance
  - Operate 18 hrs with battery charge range
- Safety – Pantograph movements and operations requirements

Recommendation: Extend the minimum wireless to realize cost savings potential

Maximum Off Wire

- 4 to 8 is likely within battery capability
- 8 to 9 too steep to stay off-wire
- 17 to 20 is likely within battery capability
- No additional pantograph movements
- Stop 1 (Bricktown terminus) remains wired
- Stop 14 (Midtown terminus) remains wired



PRELIMINARY: SUBJECT TO INEKON CONFIRMATION

ON WIRE (61%)

OFF WIRE (39%)

(not including Hudson to Maint. or EK Gaylord)

OCS – Typical Mid Block

Traffic Updates

- 10th Street – Two lanes each way
  - Eastbound streetcar in south lane
  - Westbound traffic has parallel parking option
  - Helps peak traffic in both directions
- Broadway – Two lanes each way
  - Helps Southbound peak hour traffic
  - Helps Northbound streetcar movement
  - Reconfiguration of Eastside parking

Budget Status -- Project

Item	Currently Approved Budget	Current Status (30% Submittals)	Breakdown of Current Status (30%)	Variance
Transit Investigation and Standards	$2,136	$2,067		($69)
Transit Phase 1 A&E/Design/Testing/Admin	$15,401	$15,401		$0
Transit Phase 1 Land Acquisition & Site Prep	$2,500	$2,500		$0
Land Acquisition			$500	
Site Prep (Private Utility Adjustments)			$2,000	
Transit Rail Procurement	$4,650	$3,522		($1,128)
Transit Car Procurement	$26,000	$22,958		($3,042)
Transit Phase 1 Route Construction and FF&E	$50,825	$52,755		$1,930
Mainline			$49,096	
Hudson and S&MF Yard			$3,659	
Maintenance Construction and FF&E	$4,500	$4,500		$0
HUB Construction	$9,810	$9,810		$0
Hudson Road Design/Construction		$791		$791
Transit Phase 1 Project Contingency	$4,337	$4,337		$0
Transit Phase 2 A&E Design/Testing/Admin	$1,160	$1,160		$0
Transit Phase 2 Construction	$7,137	$7,137		$0
Transit Phase 2 Project Contingency	$359	$359		$0
TOTAL MAPS 3 PROJECT	**$128,815**	**$127,297**		**($1,518)**
NOTE: Bolded items above are reflected in Mainline Construction Cost Estimate Table				

← Current Status: Under Budget

Budget Status -- Mainline

Potential Deducts:

- Hudson OCS spacing (124' vs. 62')
- OCS reduction for max. off-wire
- TPSS reduction
- Private utilities relocation
- Bricktown terminal pocket track

Potential Additions:

- Turnbacks
- Combined poles/streetlighting
- Public utilities relocations

Costs to be diligently evaluated as design progresses toward 60%

Next Steps

- Inekon off-wire configuration confirmation (ongoing)
- Combined pole decisions
- Traffic pre-emption priorities
- Potholing
- Geotech
- Utilities coordination and decisions (public, private)
- Rail procurement
- Commence work on Special Questionnaire for Bidders
- 60% design drawings

Other Items

- Vehicle
  - Inekon contract being negotiated
  - Charge/discharge of batteries being confirmed
- Storage and Maintenance Facility (S&MF)
  - Value Engineering occurring
  - Preliminary report and drawings in June 2015
- Operations
  - Fare method determination
  - Operations plan
  - Safety and Security Mgmt. Plan drafted

maps 3
OKLAHOMA CITY

JACOBS

MAPS 3 Transit/Modern Streetcar Mainline Preliminary Design

May 2015