11th & 12th Complete Streets CONNECTIONS

FINAL RECOMMENDATIONS

INTRODUCTIONS

KURT ROTERING
OLSSON PM

ERIN MURPHY
OLSSON

SHAWN STRATE
OLSSON

JAYNE SIEMENS
VENICE COMMUNICATIONS

PATTY HILDERBRAND
KCMO PM

NATHAN HLADKY
KCMO PM

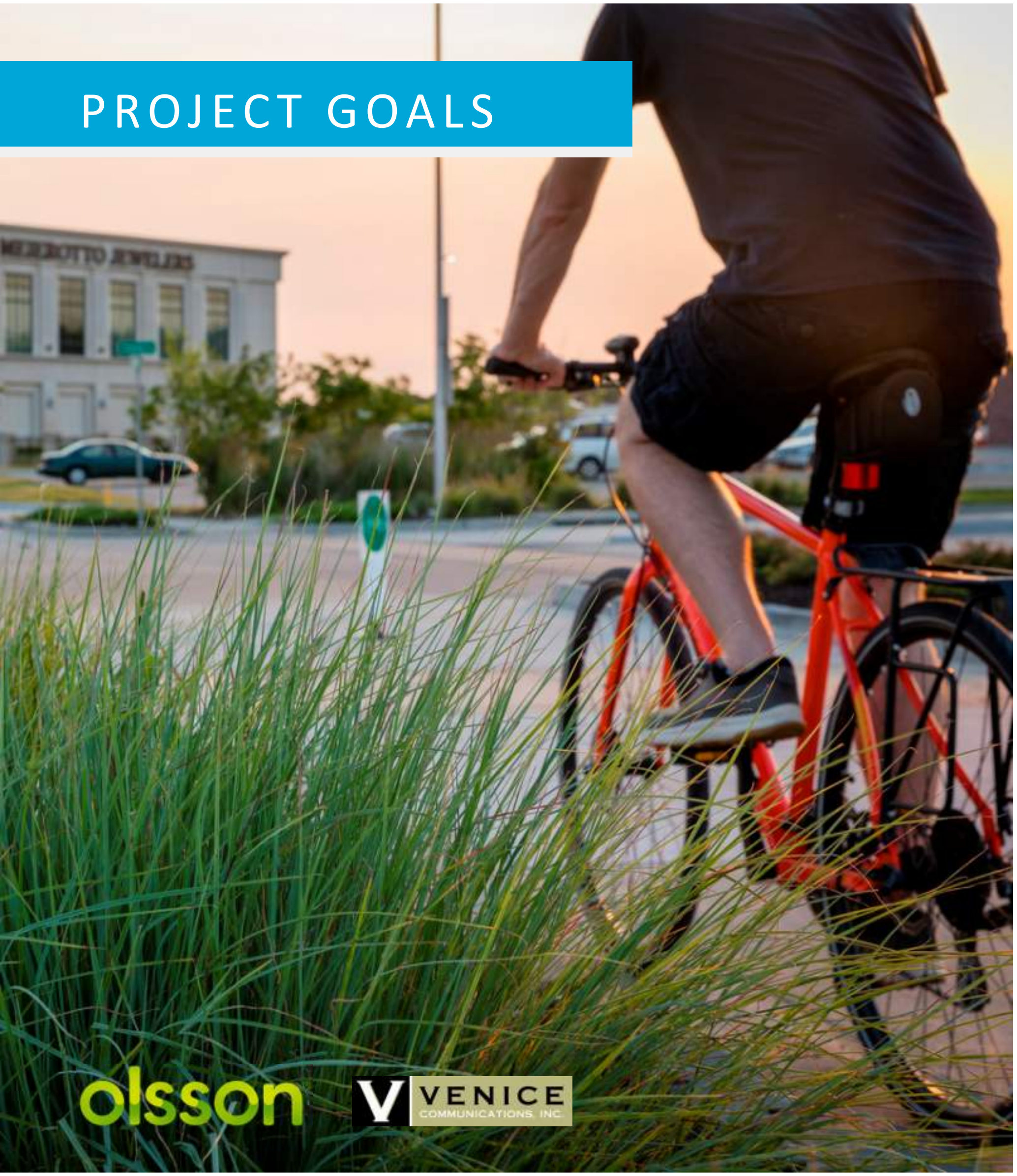
AJ FARRIS
KCATA PM

QUESTIONS

KURT ROTERING – **KROTERING@OLSSON.COM**

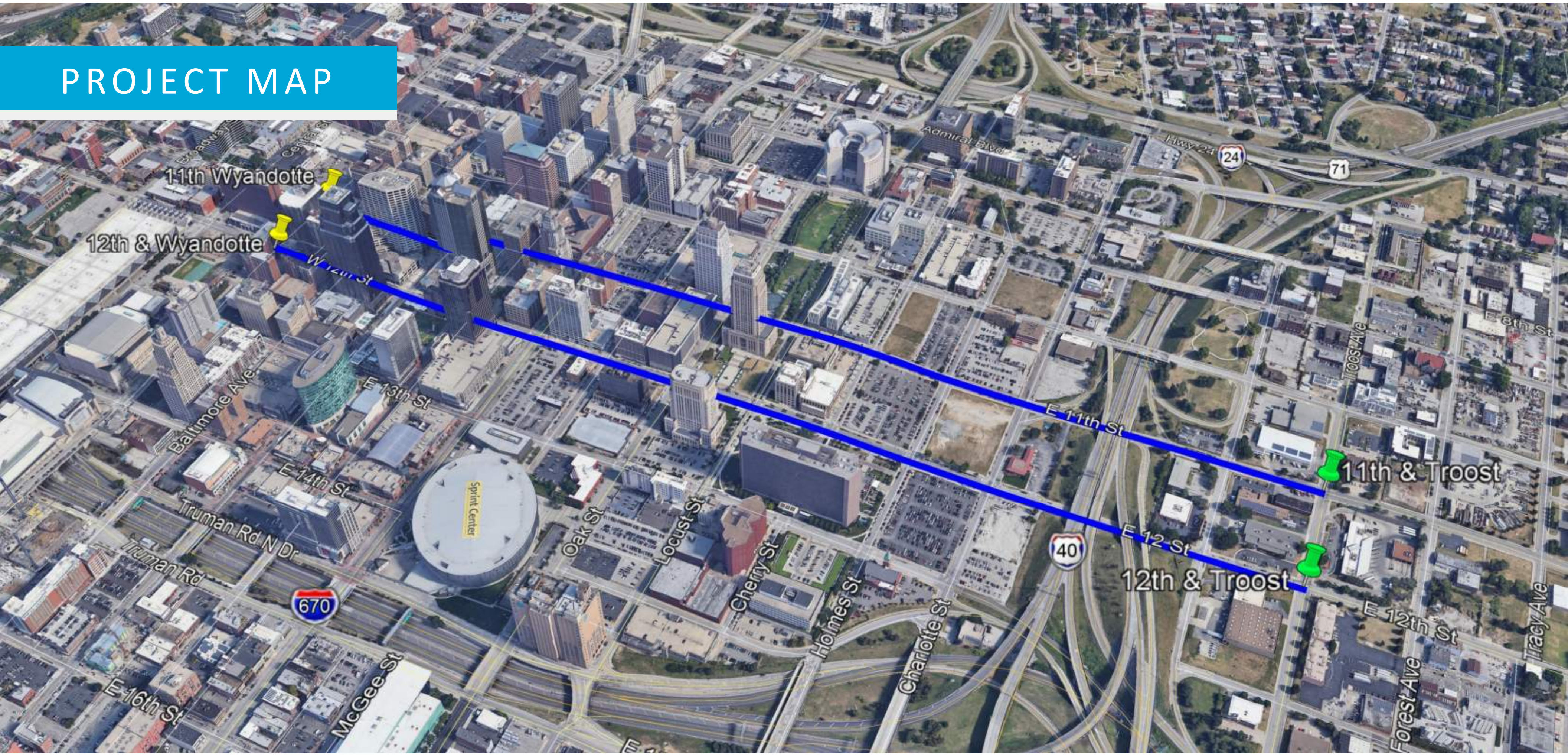
JAYNE SIEMENS – **JSIEMENS@VENCOMM.COM**

PROJECT GOALS



IDENTIFY HOW TO IMPROVE ACCESSIBILITY FOR **BICYCLES** AND INCREASE RELIABILITY FOR **BUSES** ALONG THE 11TH AND 12TH STREET CORRIDORS.

PROJECT MAP



11th Wyandotte
12th & Wyandotte
W 12th St
E 11th St
E 12 St
11th & Troost
12th & Troost
E 12th St
E 13th St
E 14th St
E 16th St
E 8th St
Baltimore Ave
Truman Rd N Dr
Truman Rd
McGee St
Oak St
Locust St
Cherry St
Holmes St
Charlotte St
Troost Ave
Forest Ave
Tracy Ave
Admiral Blvd
Hwy 24
24
71
40
670
Sprint Center

WHY?

	Pedestrian	Bicycle	Transit	Car
Existing	Connectivity	No East-West Facilities	6 mph	LOS A-C

- **Increase accessibility for all**
- **Aligns with:**
  - MARCs Complete Streets Policy
  - Draft BikeKC Plan
  - Imagine Downtown KC 2030 plan

- **Transit Emphasis Corridors**
- Realignment of bus routes
- New transit stations
- East Village Transit Center in 2020

PROJECT SCOPE

TASK 1
Review Existing Plans

TASK 2
Evaluate Current ROW Conditions

TASK 3
Best Practices

TASK 4
Identify Alternatives

TASK 5
Final Recommendations, Cost Estimates, and Implementation Plan

TASK 6
Public Engagement

EXISTING PLAN REVIEW

Plans:

- FOCUS Kansas City Comprehensive Plan (1997)
- KCMO Smart City Narrative & Application (2016)
- KCMO TOD Policy (2017)
- KCMO Greater Downtown Area Plan (2019)
- KCATA Downtown Service Improvement Concept (2015)
- KCMO Bike KC 5-Year Priority Network (2018)
- KCMO Bike Network (2018)
- KCMO Major Street Plans (2017)
- KCMO Street Design Guidelines (2019)
- KCMO Walkability Plans (2003)
- RideKC Next (2021)
- RideKC Regional Transit Plan (Smartmoves) (2017)
- Downtown Streetscape Masterplan (2004)
- MARC Regional Trails and Bikeways Map
- Grand Boulevard Streetscape Plan (2011)

Key Findings:

- Level of Service shall be considered for all modes of Transportation. Priority order:
  - Pedestrian
  - Transit
  - Bicycle
  - Vehicular
- 11th / 12th are Priority 1 for bike lanes
  - 12th Street is least hilly east-west route
  - 12th Street is continuous from KCK to I-435
- RideKC Next will add service along 11th and 12th Streets.
- Lane widths for all uses should be as narrow as reasonable to minimize the pedestrian crossing distance.

CURRENT ROW CONDITIONS

- Speeds
- Intersection Traffic Control (Signal vs Stop Controlled)
- Bicycle, Transit, Streetcar Facilities
- Crash History
- Traffic Counts, Signal Timings, Geometrics
- Capacity Analysis / Level of Service

	Pedestrian	Bicycle	Transit	Car
Existing	Connectivity	None	6 mph	LOS A-C

PUBLIC INVOLVEMENT

- **Stakeholders Meetings**
  - Businesses
  - City/Federal/First Responders
  - Civic Organizations
  - Developers and Real Estate
  - Mobility
  - Retail/Restaurants/Hotels

- **Pop-Up Events**
  - 11th & Grand Bus Stop
  - 12th & Grand Bus Stop
  - Oppenstein Brothers Park

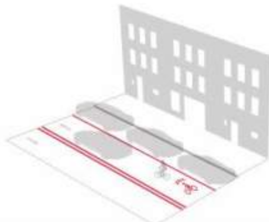
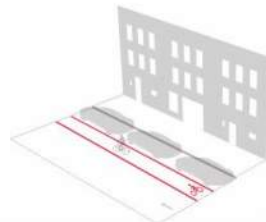
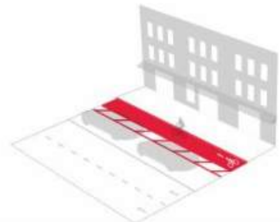
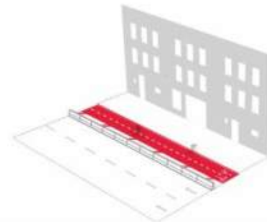
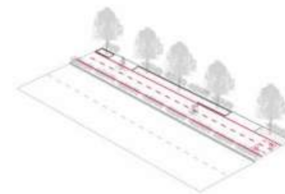
- **Online Survey**

- **Public Open House**
  - March 2nd, 2022, 4-6 PM
  - East Village Transit Center

BEST PRACTICES REVIEW

- National Association of City Transportation Officials (NACTO)
- Kansas City
- Northwest Arkansas
- Lincoln
- Denver
- St. Louis
- Portland
- San Francisco
- New York City
- Washington, D.C.

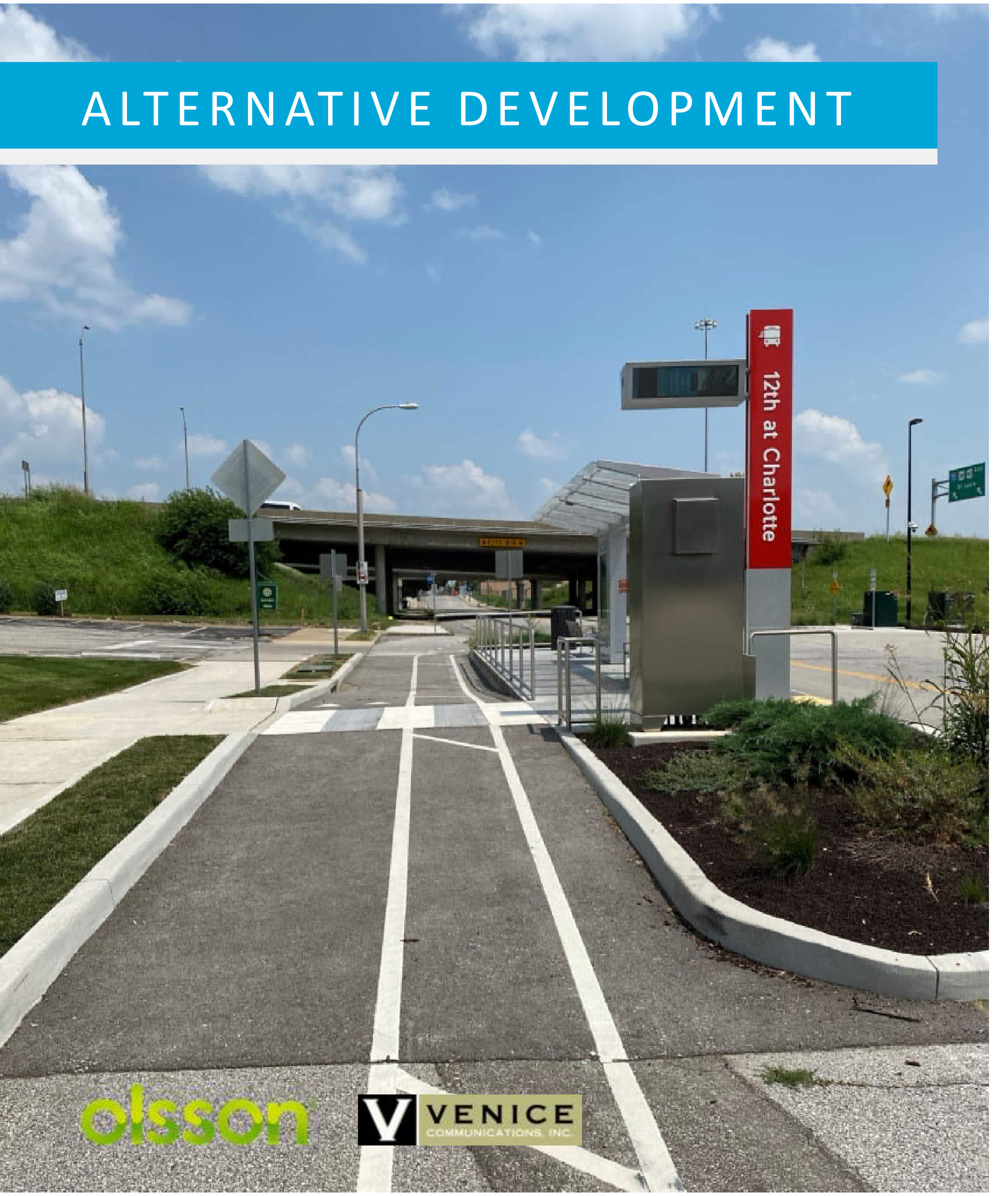
BIKE LANES

		Conventional Bike Lane	Protected Bike Lane		
	Shared Lane	**Conventional Bike Lane**	**One-Way Protected Bike Lane**	**Two-Way Protected Bike Lane**	**Grade-Separated Bike Lane**
	Ex: 48th Street, Queens	*Ex: Van Duzer Street, Staten Island*	*Ex: 55th Street, Manhattan*	*Ex: Prospect Park West, Brooklyn*	*Ex: Sands Street, Brooklyn*
					
Space Required	None	5-6' standard	4' min. lane + 3' min. buffer + 4' min. buffer if no maintenance plan (does not apply if parking-protected)	8' min. (4' min. each lane) + 3' min. buffer if no maintenance plan + 2' if protected by Jersey barrier	5' min. one-way, 8' min. two-way + buffer for edge treatments and any obstructions
Ideal Application	○ One- or two-lane street ○ No excess road space ○ Connected to other bike facilities	○ One- or two-lane street ○ Excess road space ○ Low potential for intrusion into bike lane	○ Excess road space ○ Low-speed vehicular traffic ○ High potential for intrusion into bike lane	○ Favorable edge conditions ○ Excess road space ○ Adjacent to parks and waterfront public spaces ○ Within industrial areas	○ As part of a continuous "Greenway" ○ Adjacent to or through parks and waterfront public spaces
Advantages	○ Clear, easy to follow bike route ○ Heightens driver awareness of cyclists ○ Preserves curbside access ○ Simple implementation	○ Dedicated roadway space for cycling ○ Preserves curbside access ○ Simple implementation	○ Protection for cyclists ○ Proven safety benefits for all modes ○ Enhanced pedestrian safety and comfort ○ Allows for pedestrian improvements like safety islands	○ More spatially efficient than two separate one-way bike lanes ○ Enhanced visibility of cyclists ○ Enhanced access and circulation next to parks and public spaces ○ Safer passing for cyclists traveling at different speeds	○ Greatest safety benefit to cyclists ○ Connects cycling facilities where on-street facilities are infeasible ○ Preserves curbside access
Disadvantages	○ Does not provide dedicated roadway space for cycling ○ Cyclists not separated from traffic	○ Vehicular intrusion remains possible ○ Cyclists have minimal separation from traffic ○ Perceived as less safe than protected lanes	○ Parking impacts ○ Loading activity occurs across bike lane ○ Challenging to regulate floating parking ○ Bike signal timing may impact traffic ○ Maintenance plan required at ped. safety islands for lanes under 11' wide ○ Complex review and implementation	○ Parking impacts ○ Bike signal timing may impact traffic ○ Requires turn controls or restrictions on a two-way street ○ Complex review and implementation	○ Often requires capital reconstruction ○ Complex review and implementation
Green Pavement	○ None	○ Standard if lane is immediately adjacent to curb, especially in areas with high pedestrian volumes ○ Standard if lane is located between a travel lane and a turn lane ("pocket lane")	○ Standard if there is high parking turnover; not recommended at locations with low turnover ○ Not used when protected by a permanent, continuous vertical element	○ Preferred if lane is exclusive to cyclists and/or is in an area with high pedestrian volumes	○ Not used when protected by a permanent, continuous vertical element (e.g., curb, Jersey barrier)
Intersection Treatments	○ Chevrons to indicate bike facility	○ Chevrons to indicate bike facility	○ Turn restrictions may be needed at complex intersections ○ Shared crossing ("mixing zone"), separated crossing ("signal-protected turn"), or offset crossing ("protected intersection") to manage turning conflict ○ Chevrons to indicate bike facility	○ Turn restrictions may be needed at complex intersections ○ Separated crossing ("signal-protected turn") or offset crossing ("protected intersection") to manage turning conflict ○ Chevrons to indicate bike facility	○ Separated crossing ("signal-protected turn") or offset crossing ("protected intersection") to manage turning conflict ○ Chevrons to indicate bike facility

BUS LANES

	Curbside Bus Lane	Contraflow Bus Lane	Offset Bus Lane	Double Bus Lane	Median Bus Lane	Center-Running Bus Lane	Limited Access Transit Street
	Ex: Hylan Boulevard, Staten Island	*Ex: Glenwood Road, Brooklyn*	*Ex: Utica Avenue, Brooklyn*	*Ex: Madison Avenue, Manhattan*	*Ex: Woodhaven Boulevard, Queens*	*Ex: 161st Street, Bronx*	*Ex: 14th Street, Manhattan*
							
Width	11-14'	12-14'	11-12'	21-24'	11-12'	11-12'	24-48'
Ideal Application	◦ Streets with narrow right-of way where an offset bus lane is not geometrically feasible ◦ Streets with minimal curb demand	◦ Simplifying bus routing ◦ Very high-volume bus corridors ◦ Streets with narrow right-of-way where two-way general traffic is not feasible or desired	◦ Congested streets with heavy demand at the curb	◦ Very high-volume bus corridors ◦ Corridors with a high frequency of bus stops used by many lines (i.e. express bus corridors)	◦ Streets with a main line / service road design	◦ Streets with chronic double-parking issues ◦ Streets where boarding islands can be accommodated	◦ Very high-volume bus corridors
Advantages	◦ Preserves vehicular travel lanes ◦ Bus lane can be used for parking/loading off-hours	◦ Eliminates conflicts at the curb ◦ Allows buses to use a simpler routing than the street network currently allows ◦ Can be grade-separated	◦ Avoids conflicts at the curb ◦ Can be in effect 24 hours/7 days per week allowing for uncomplicated signage to drivers ◦ Provides opportunity to construct bus bulbs, adding more space for pedestrians and bus stop amenities ◦ Buses can pass buses who are stopped at the curb	◦ Allows buses to pass each other	◦ Separates buses from curb conflicts ◦ Allows for robust median bus stops	◦ Removes right-turn and curb conflicts	◦ Fully grade-separated right-of-way
Disadvantages	◦ Removes parking/curb access ◦ Only effective if properly enforced	◦ Removes parking/curb access ◦ Requires sufficient right-of-way	◦ Requires removal of travel lane ◦ For two-way streets ~60'-70', left turns must often be restricted or bus lanes must often transition to the curb to accommodate a left turn bay (example: Utica Avenue, Brooklyn; Main Street, Queens)	◦ Removes parking/curb access ◦ Requires sufficient right-of-way	◦ Vehicle intrusion remains possible	◦ Left turns must be restricted or have separate signal phasing ◦ Requires sufficient right-of-way	◦ Typically requires a capital project ◦ Loading challenges for businesses
Parking Loss	Medium-High ◦ Parking removed when bus lane is in effect	High ◦ All parking should be removed	Low-Medium ◦ Parking typically preserved. Truck loading zones and meters should be added to prevent double-parking in bus lane	Medium-High ◦ Curbside parking typically removed but could allow curb access during off-peak hours (causing the bus facility to function as a de facto offset bus lane)	Very Low ◦ Parking is sometimes gained due to relocating bus stops from service road to main line	Very Low ◦ Parking is sometimes gained due to relocating bus stops from service road to main line	High ◦ All parking should be removed
Red Color Treatment	◦ Preferred when bus lane is in effect for at least six hours per day	◦ Preferred	◦ Preferred	◦ Preferred	◦ Preferred	◦ Preferred	◦ Preferred but less necessary since no traffic is allowed in right-of-way

ALTERNATIVE DEVELOPMENT



Alternatives

1. No-Improvements
2. Bus Only Lanes / One-way Bike Lanes
3. Bus Only Lanes / Bike Lanes and Cycle Track
4. Bus Only Lanes / Two-way Cycle Track
5. Shared Bike / Bus Lanes

DECISION MATRIX

Criteria

- Improve Transit Reliability
- Provide E/W Bike Connection
- Reduce Bus Incidents
- Reduce Bike Incidents
- Construction Time
- Cost
- Impact to Existing Business Operations
- Alignment with Existing Plans/ Ordinances
- Environmentally Friendly
- Social Equity
- Bike Facility Comfortability
- Alignment with Public Input

Alternatives

1. No-Improvements
2. Bus Only Lanes / One-way Bike Lanes
3. Bus Only Lanes / Bike Lanes and Cycle Track
4. Bus Only Lanes / Two-way Cycle Track
5. Shared Bike / Bus Lanes

1. No-Build	2. Bus/1-Way Bike	3. Bus/Mix	4. Bus/Cycle Track	5. Shared Bus/Bike
145	390	410	470	355

FINAL RECOMMENDATION

Bus Only Lanes on 11th & 12th + 2-Way Cycle Track on 12th

- Bus-only lanes along the outside curb of 11th & 12th Street adjacent to existing bus stops
- Two-way cycle track on the inside curb of 12th Street (north side)
- Maintain at least one lane for vehicular traffic + right-turn lanes
- Improved pedestrian crossings throughout
- Maintain existing access points
- Improve signal coordination to minimize queuing
- Will require improved coordination of construction closures within downtown grid
- Event parking ingress improvements to reduce queuing along 12th Street
- Requires relocation of Hotel Phillips' valet
- Future expansion of both bike and bus network is possible

FINAL RECOMMENDATION

Bus Only Lanes on 11th & 12th + 2-Way Cycle Track on 12th

Level of Service

	Pedestrian	Bicycle	Transit	Car
Existing	Connectivity	No East-West Facilities	6 mph	LOS A-C
Recommended	Curb Extensions / ADA / No RTOR	Cycle Track / Intersection Improvements	13 mph*	LOS A-C*

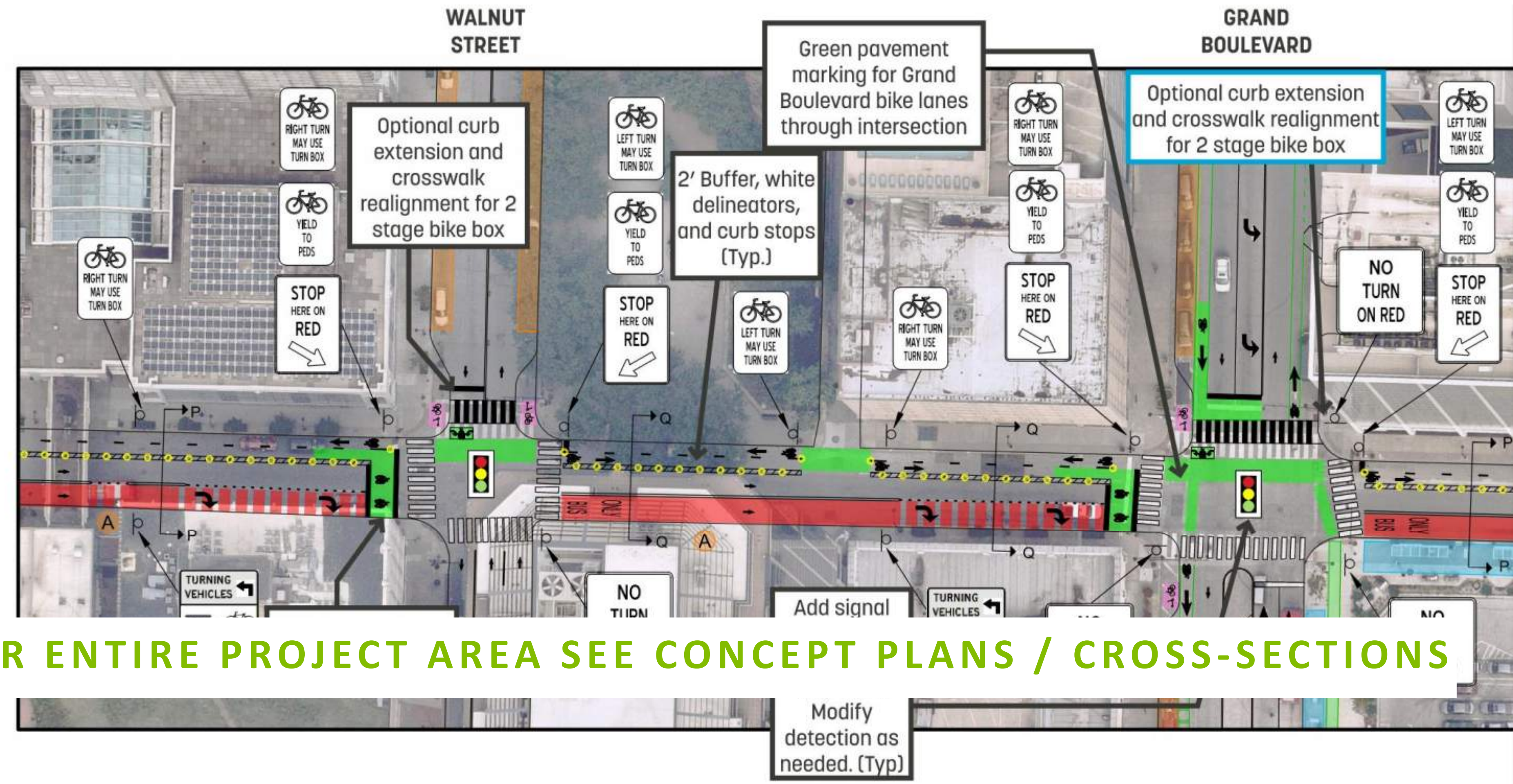
*Note: With Signal Retiming

olsson VENICE COMMUNICATIONS, INC. RideKC

FINAL RECOMMENDATION

Bus Only Lanes on 11th & 12th + 2-Way Cycle Track on 12th

PROPOSED



FOR ENTIRE PROJECT AREA SEE CONCEPT PLANS / CROSS-SECTIONS

THANK YOU

KURT ROTERING – **KROTERING@OLSSON.COM**

JAYNE SIEMENS – **JSIEMENS@VENCOMM.COM**