



COLFAX & FEDERAL
INTERCHANGE
TRANSFORMATION



Project Update

Stakeholder Meeting 4

July 29, 2021



DENVER
TRANSPORTATION &
INFRASTRUCTURE



COLORADO
Department of
Transportation

Welcome



“MEETING” LAYOUT

- Teams
- Presentation to Inform & Educate
- Q & A Box
- Meeting recording



DURING THE MEETING

- Feedback and discussion breaks
- Live chat
- Question and answer breaks



COVID-19

- We are working from home to save lives
- Dogs/Cats/Children may enter



AFTER THE MEETING

- E-mail from Project Manager to share with network:
Gabriella.Serrado@denvergov.org
- Project Webpage:
[Bit.ly/ColfaxFederalTransformation](https://bit.ly/ColfaxFederalTransformation)
- YouTube page:
bit.ly/DOTIYouTube



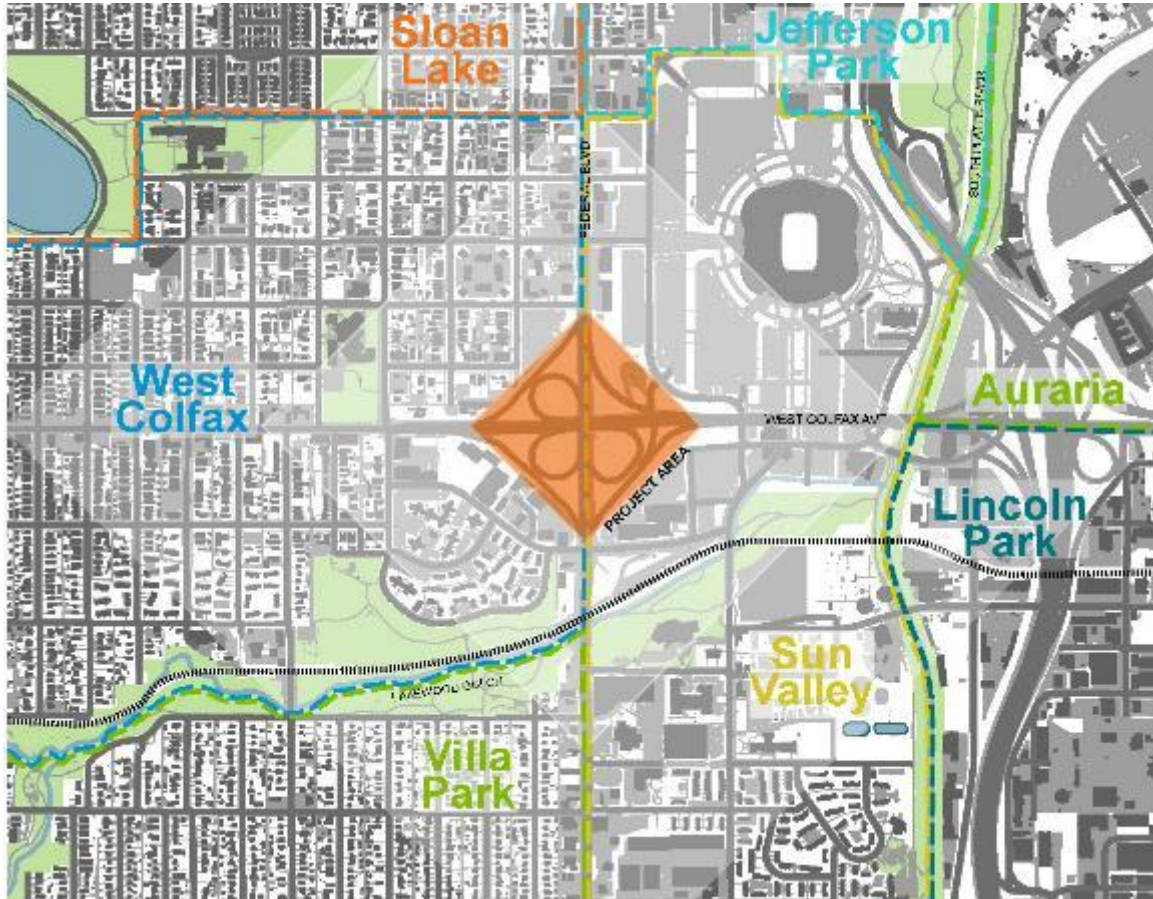
CULTURE OF RESPECT

Agenda



- Welcome
- Introductions
- Project Manager Update
- Overview – Purpose, Process, and Vision Framework
- Existing Conditions & Considerations
- Preliminary Scenarios
- Evaluation Matrix
- Next Steps

Overview | Purpose and Study Area



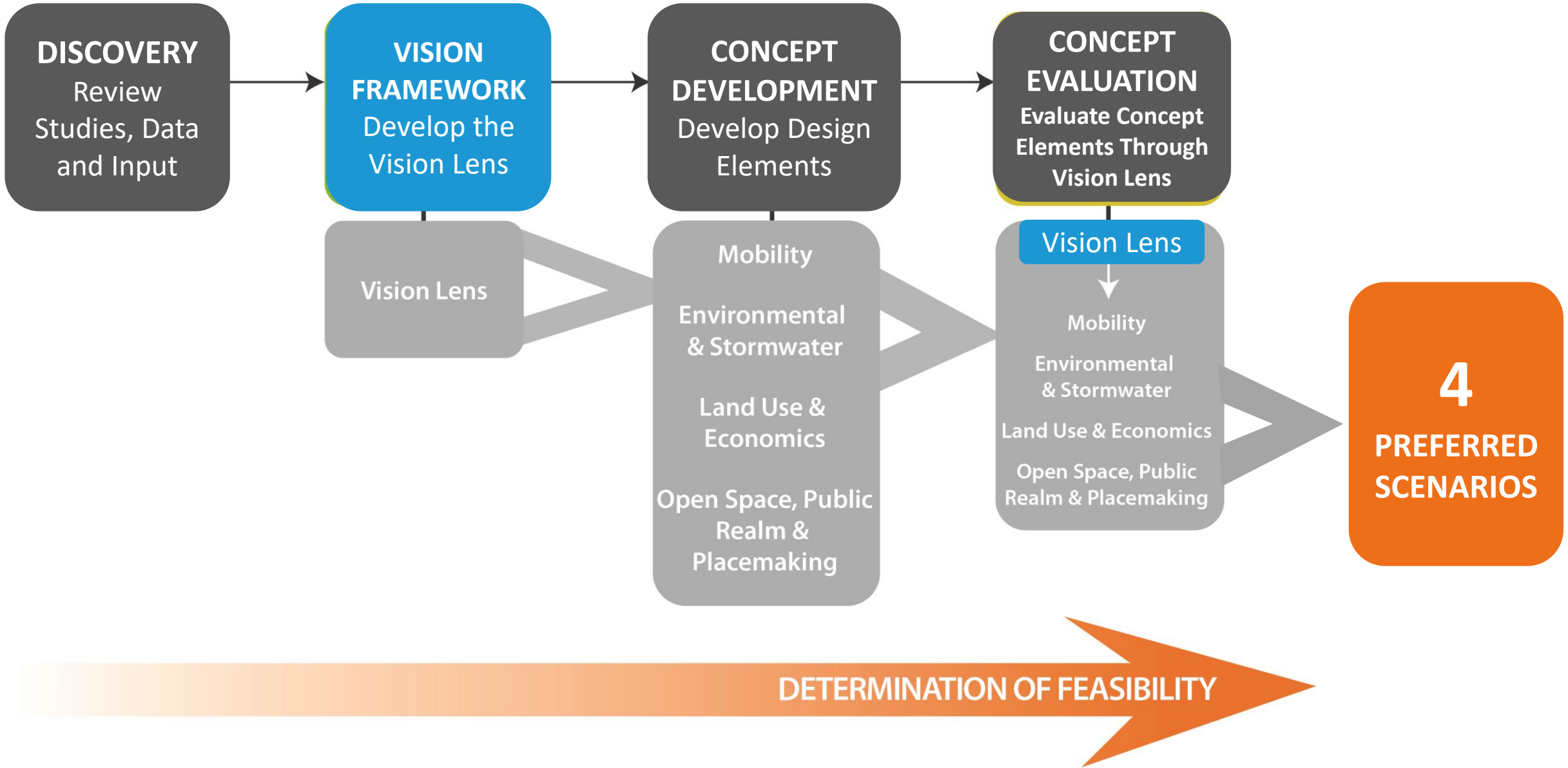
To evaluate the possibility of *transforming the area* and understand the *transportation, connectivity, and stormwater infrastructure needs for future development.*

Develop a design that:

- maximizes transportation options,
 - 29 acres, full or partial ‘Cloverleaf’ interchange design
- responds to needed stormwater infrastructure,
 - detention basins
 - manage flow of stormwater
- supports future land uses, connects neighborhoods and enhances the public realm.

GOAL: To provide CDOT’s HTPe options that meet CCD’s goals and values

Overview | Process



Overview | Vision Framework

	Equity	Resiliency	Connectivity	Health & Safety
Mobility	Create a pedestrian, bike and transit network that provides mutually beneficial access for all ages and abilities between existing and future uses.	Strengthen mobility options and create visibly integrated transportation modes that provide redundancy in the transportation system.	Develop cohesive multi-modal network that creates efficient access and supporting infrastructure between modes.	Redesign the interchange to ensure safe movements for all modes: pedestrians, bicycles, transit users, and vehicles. Create safe and comfortable access to public recreational uses.
Environmental & Stormwater	Manage local and regional stormwater to reduce flooding risks for existing properties and future development. Increase community education and awareness of flood risks.	Implement stormwater strategies that enable the community to recover quickly after storm events. Implement green infrastructure that addresses water quality, biodiversity, heat island effects and reduces the impacts of climate change.	Implement stormwater improvements that are compatible with and enhance mobility goals and development opportunities.	Design stormwater improvements that increase public safety by mitigating both local and regional flood risks. Integrate landscapes which improve water quality and create a healthy environment.
Land Use & Economics	Maximize development opportunities that accommodate affordable housing, locally-owned businesses, community-serving amenities, and job-training and employment opportunities for low-income community members.	Integrate a broad mix of mutually-supportive uses to create a strong integrated economic ecosystem.	Support transit-oriented development with land-use patterns, building features, and regional programs that facilitate residents, employers, employees, and visitors to use alternative transportation.	Promote pedestrian-scale development opportunities to facilitate easy access to healthy food, community services, recreation, and open space.
Open Space, Public Realm, & Placemaking	Plan open space that addresses the current needs and identity of the community and can be used in a variety of ways by a multiplicity of user groups now and in the future.	Create a flexible open space system that accommodates biodiversity, stormwater needs, heat island reduction, and economic stimulus that also fosters healthy lifestyles and a strong sense of community.	Stitch together open space and public realm to create clear, direct connections supported by wayfinding to and through the site.	Provide safe open spaces with access to nature and services for mental and physical well-being and healthy activities.

Developed by the
Project
Management Team
(PMT) and
Stakeholder
Committee

Overview | Vision Framework

	Equity	Resiliency	Connectivity	Health & Safety
Mobility	<p>Mutually Beneficial Access for All Multi-Modal</p>	<p>Strengthen Options Visibly Integrated Transportation</p>	<p>Efficient Access Transition between Modes</p>	<p>Safe Movement Multiple Modes</p>
Environmental & Stormwater	<p>Reduce Flooding Community Education</p>	<p>Recovery Timeline Green Infrastructure Impacts of Climate Change</p>	<p>Enhance Mobility Compatible with Development</p>	<p>Public Safety Local & Regional Integrate Landscape</p>
Land Use & Economics	<p>Locally-Owned Affordable Housing Community-Serving Job-Training</p>	<p>Mutually Supportive Uses Integrated Economic Ecosystem</p>	<p>Transit-Oriented Facilitate Alternate Transportation</p>	<p>Pedestrian-Scale Access to Services</p>
Open Space, Public Realm, & Placemaking	<p>Community Identity Current and Future Needs</p>	<p>Flexible Open Space Healthy Lifestyles Sense of Community</p>	<p>Clear Connections Wayfinding Integration</p>	<p>Access Safety Well Being</p>

The Vision Framework informed the scenario development and assessment

Existing Conditions and Considerations



Scenario Building Blocks

Disperse/Condense Through Traffic



Community Road Connections



Topography



Stormwater Connection



Open Space



Pedestrian Connections



Community Edges



Development Parcels



Existing Conditions & Considerations

Infrastructure Barrier

- Absence of safe and comfortable pedestrian and bicycle connections on all sides of the cloverleaf
- Lack of local street connection to/from neighborhoods
- High Injury Network
- Drastic slope changes:
 - ~45' drop from 16th to Howard (North to South)
 - ~70' drop from Irving to viaduct (West to East)

Existing Bridge

- Built in 2005
- \$7.5M existing payback value (*continues to depreciate*)
- \$1M bridge cost removal

Development

- Zoning transition from existing neighborhoods to new development (Sloans Lake / West Colfax / Villa Park ↔ Cloverleaf ↔ Stadium District)

Transit

- Future transit stop for Federal Blvd BRT and Colfax Ave BRTs. Cross-section for Federal Blvd BRT has been developed.





BREAK #1

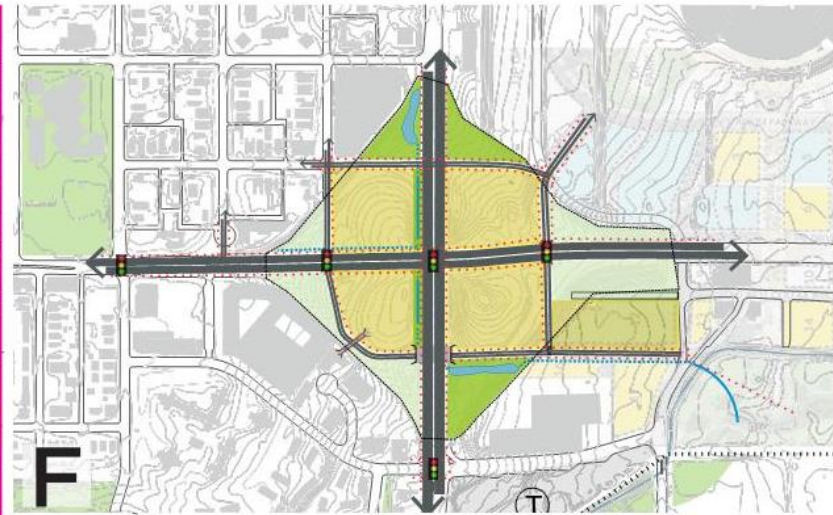
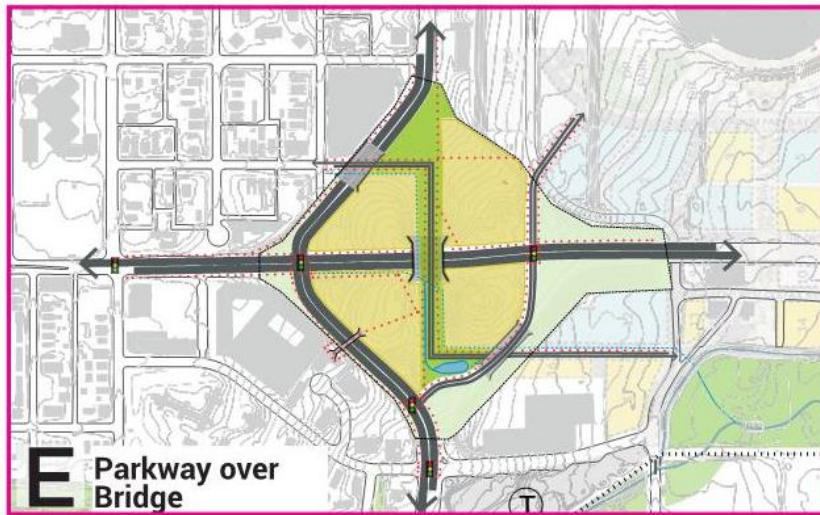
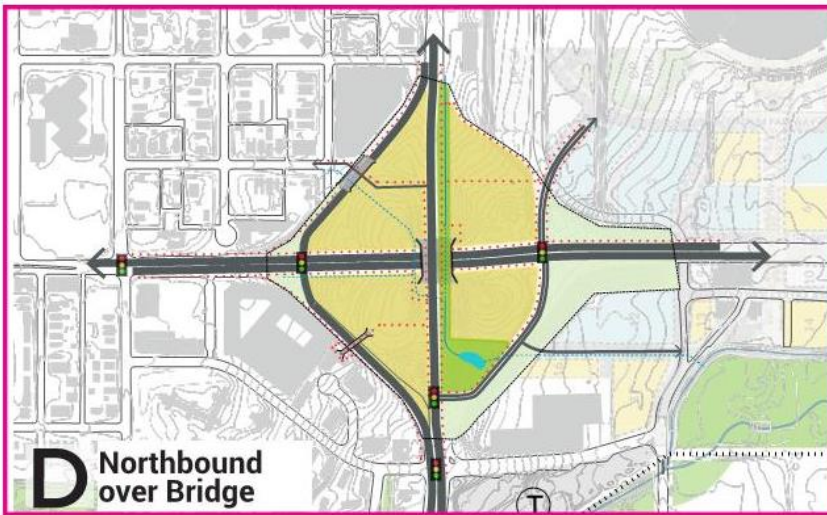
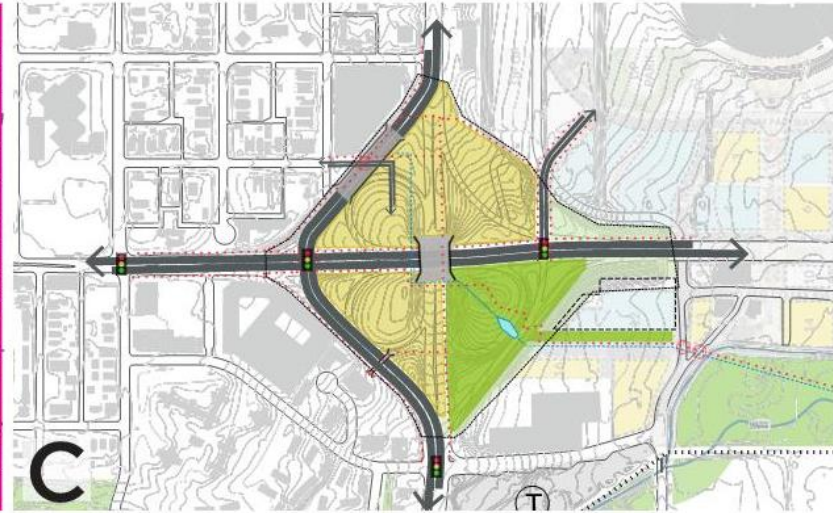
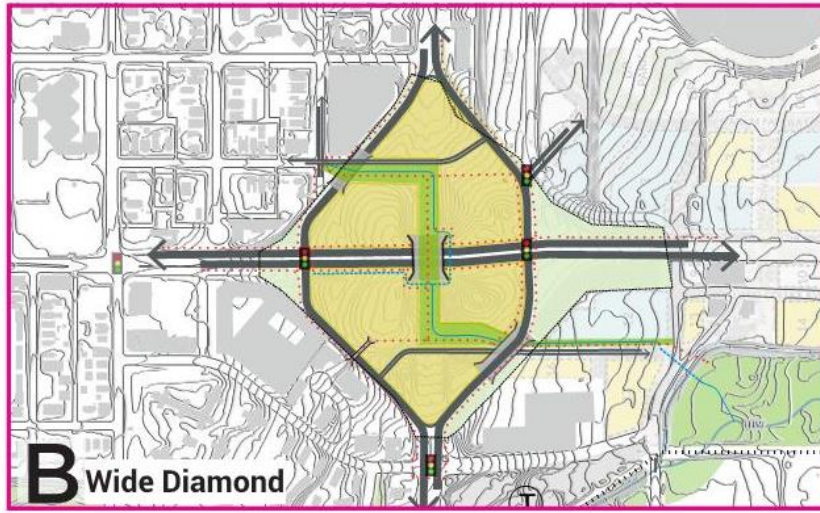
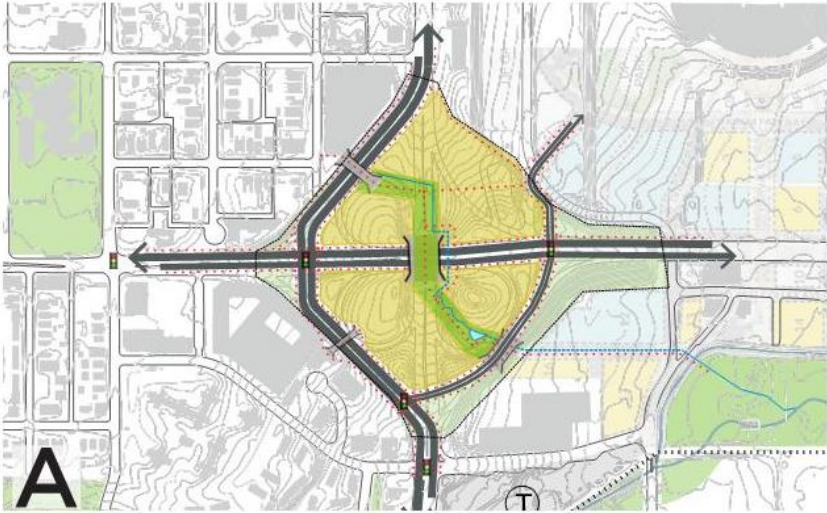


QUESTIONS?

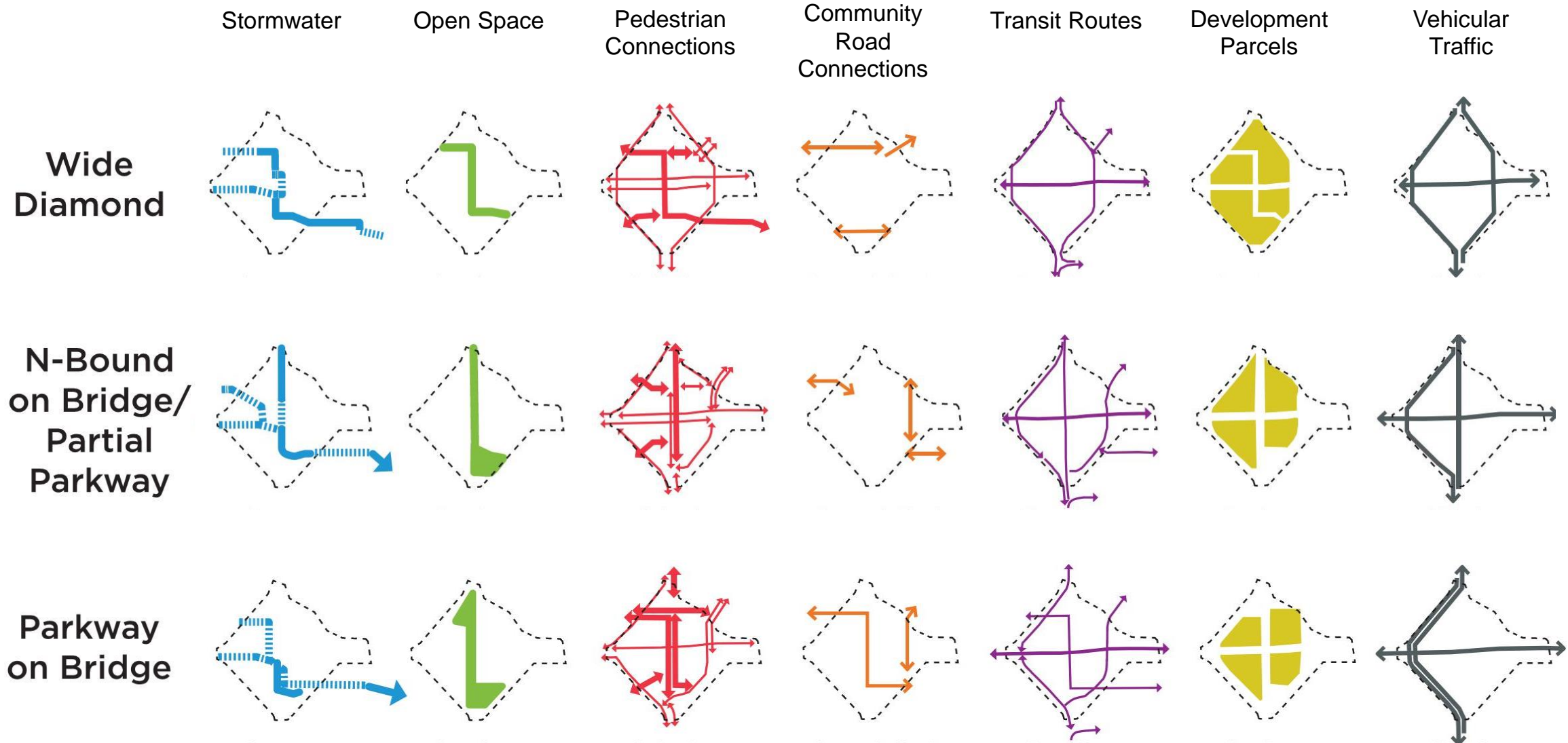
Preliminary Scenarios



October 2020 Draft Scenarios



October 2020 Draft Scenarios Cont.



DOTI

- Scenarios do not meet the study's transformation vision
- The bridge is a barrier to achieving the other Framework goals
- The costs for removing the bridge should not hinder the development of a transformational vision

CDOT

- Efforts must accommodate CDOT's traffic safety goals
- Further analysis is needed that reflect a transportation system for all modes
- There needs to be an option that uses the bridge with a portion of the state highway
- HTPF funds could be used to conduct traffic and safety analysis in the next phase

RTD

- Easier access to Decatur-Federal Station from the east through Decatur or Elliott (local buses)
- There should be a stop/station at the intersection where the future Federal and Colfax future BRTs
- There should be enough space for an enhanced stop/station: shelters, trash receptacles, etc.
- This station would not replace the Decatur-Federal transfer station
- Safety improvements are needed at Federal and Howard

PARKS & RECREATION

- 10% of developable land must be allocated towards a park
- Park needs to be accessible to residents...it cannot have too many infrastructure barriers
- Open to flexible park-stormwater facility
- Area does not need another regionally significant park

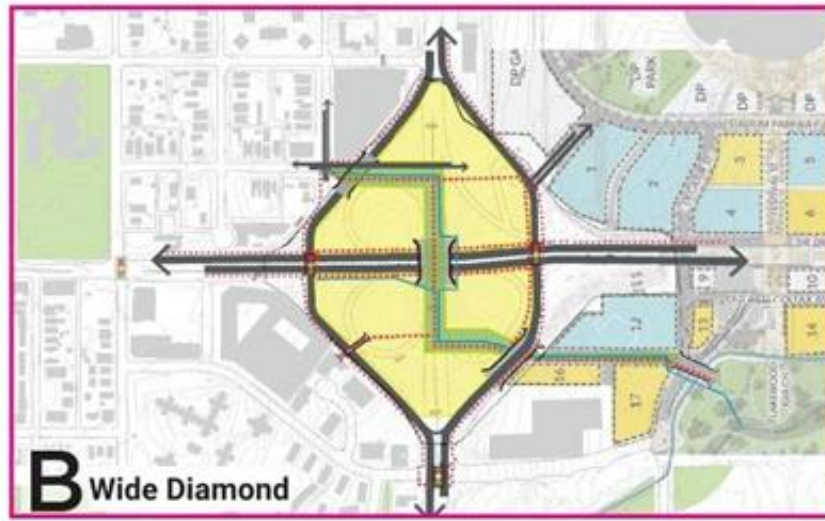
COMMUNITY PLANNING & DEVELOPMENT

- The community does not want Federal Blvd to swing to the west - infrastructure barrier and environmental impact to established community
- Pedestrian safety is a big concern. Local street connectivity to Stadium District and Sun Valley is needed
- Scenarios need to account for new residents in the area and ensure that people can move through the project in multiple ways

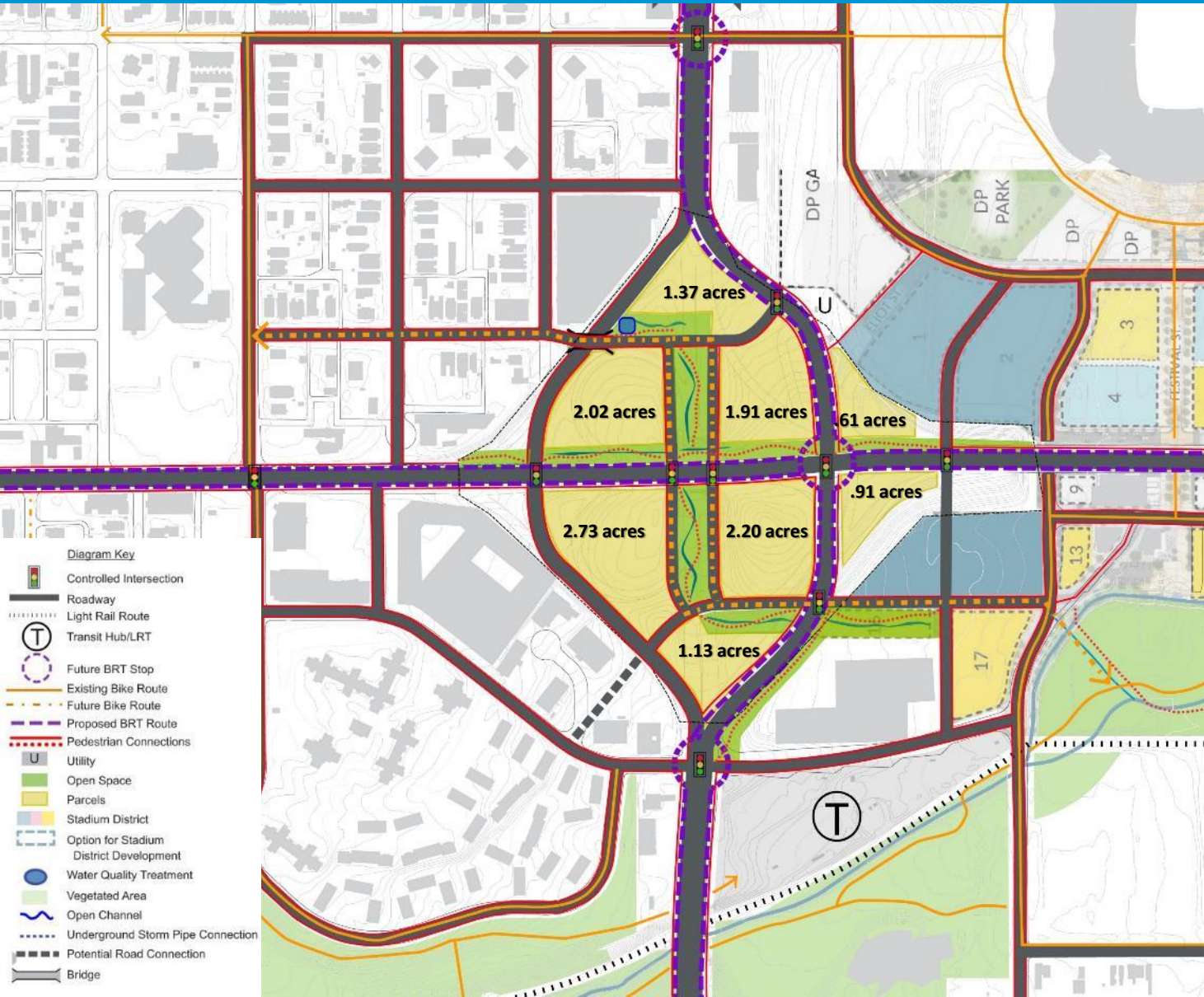
PRIVATE DEVELOPERS

- Small group discussion with developers knowledgeable about area; earlier versions of scenarios
- General agreement about area attractiveness for development / affordable housing
- Bridge perceived as a connector; bringing bridge to grade may not achieve desired results
- East side more developable than west
- Potential to stagger heights with higher on west and lower on east for views
- Conejos connection and connection from northwest to southeast important

2021 Draft Scenarios



B: Wide Diamond



Analysis Category	Category Data
Potential Developable Land	12.89 ac
Potential Required Park Space	1.29 acres <i>Could potentially be incorporated into the 3.41 acres already planned for open space</i>
Planned Open Space	3.41 acres
Probable Cost	TBD
2040 Synchro Results (LOS/Delay)	West: LOS E/D, Delay 58 s/44 s East: LOS D/C, Delay 42 s/34 s

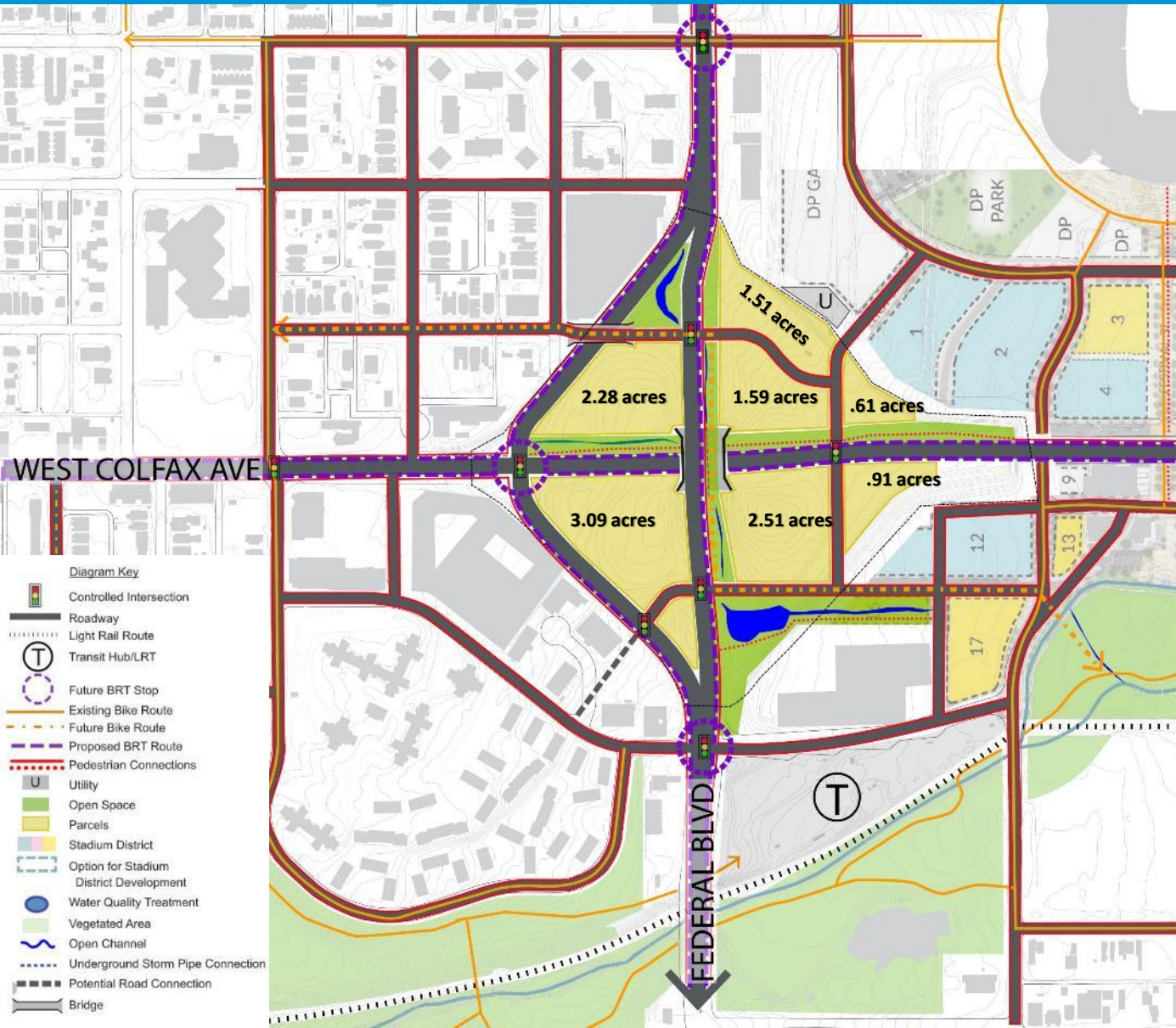
PROS

- One way operates better for vehicular traffic
- Smaller intersection footprint at Colfax & Federal intersection
- Establishes a grid street network
- Integrates new roadway system with Stadium District and transit
- High portion of above ground regional stormwater facility
- Proposed channel keeps the 100-year floodplain contained
- Open channel will create a "green" connection to Lakewood Gulch

CONS

- Local connections to Federal into and through the site are more difficult
- Complicated transit routing for Federal BRT users and signal timing
- Federal still a barrier to west neighborhoods

D: Northbound Over Bridge



Analysis Category	Category Data
Potential Developable Land	12.92 ac
Potential Required Park Space	1.29 acres <i>Could potentially be incorporated into the 4.93 acres already planned for open space</i>
Planned Open Space	4.93 acres
Probable Cost	TBD
2040 Synchro Results (LOS/Delay)	West: LOS E/E, Delay 69 s/62 s East: LOS A/F, Delay 6 s/86 s

THIS OPTION COULD ALSO BE RECONFIGURED FOR SOUTHBOUND TO REMAIN ON THE BRIDGE OR OTHER ALTERNATIVE THAT CONTINUE TO PARTIALLY USE THE BRIDGE AS STATE HIGHWAY TRAFFIC.

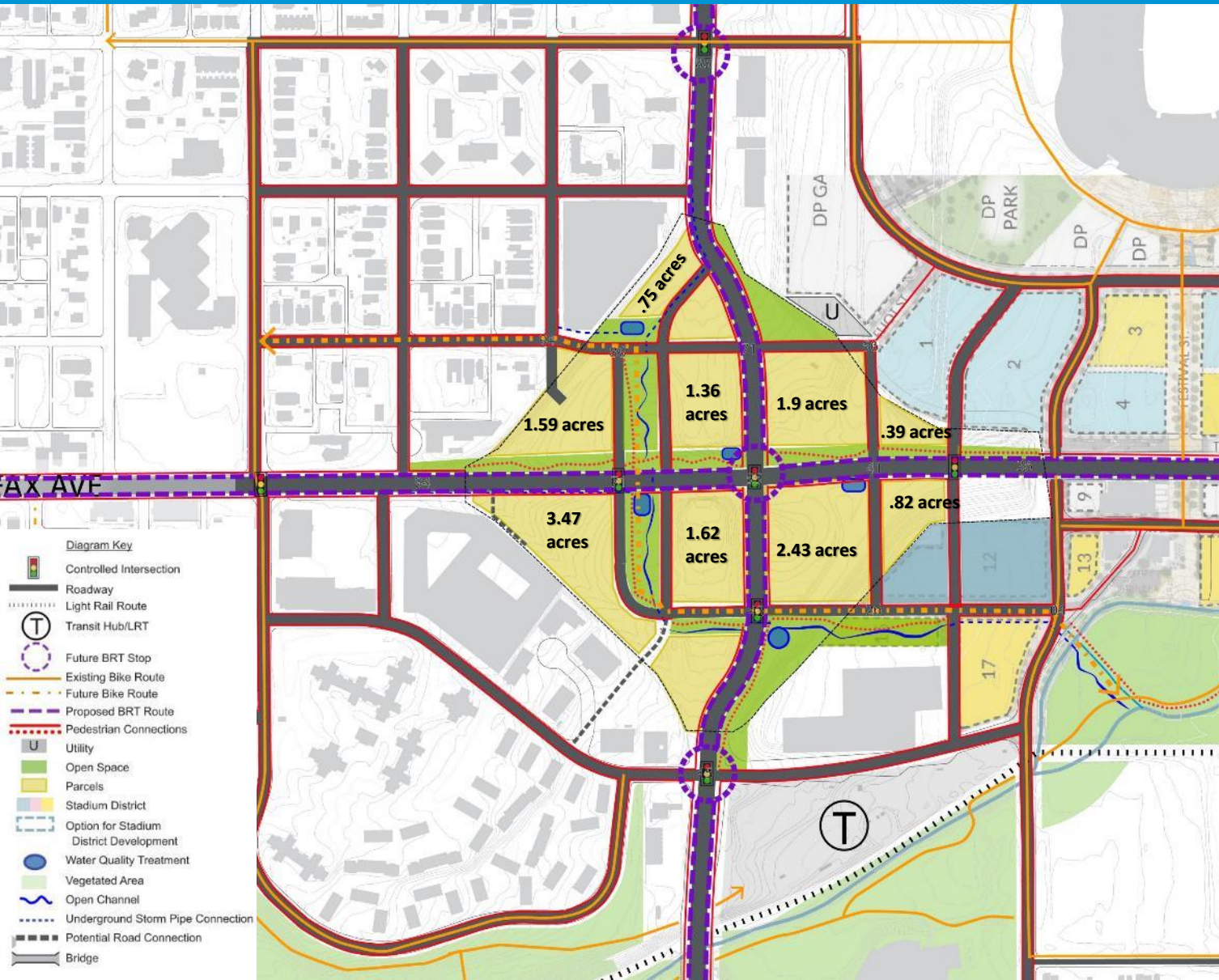
PROS

- One-way couple operates better for vehicular traffic
- Smaller at-grade intersection at SB Federal and Colfax
- Amenitized bridge could add placemaking value
- Colfax & Federal intersection footprint would be smaller and easier to cross as a pedestrian or cyclist

CONS

- No connection between northbound Federal and Colfax
- Due to grades, limited/no local street network and pedestrian connection
- Stormwater infrastructure will not be resilient
- Existing bridge precludes open channel connection to Lakewood Gulch
- Federal would still act as a barrier to west neighborhoods
- One-way couple could limit access into developable parcels.
- Complicated transit routing for users and signal timing
- Existing site grades impact development and need for retaining walls

F: Neighborhood Connection



Analysis Category	Category Data
Potential Developable Land	14.87 ac
Potential Required Park Space	1.49 ac <i>Could potentially be incorporated into the 5.1 acres already planned for open space</i>
Planned Open Space	5.61 ac
Probable Cost	TBD
2040 Synchro Results (LOS/Delay)	LOS F/F, Delay 111 s/107 s Queuing problems are projected on all approaches and most movements

PROS

- Best opportunities for developable land
- Establishes a grid street network
- Integrates new roadway system with Stadium District and transit
- High portion of above ground regional stormwater facility
- Proposed channel keeps the 100-year floodplain contained
- Open channel will create a "green" connection to Lakewood Gulch

CONS

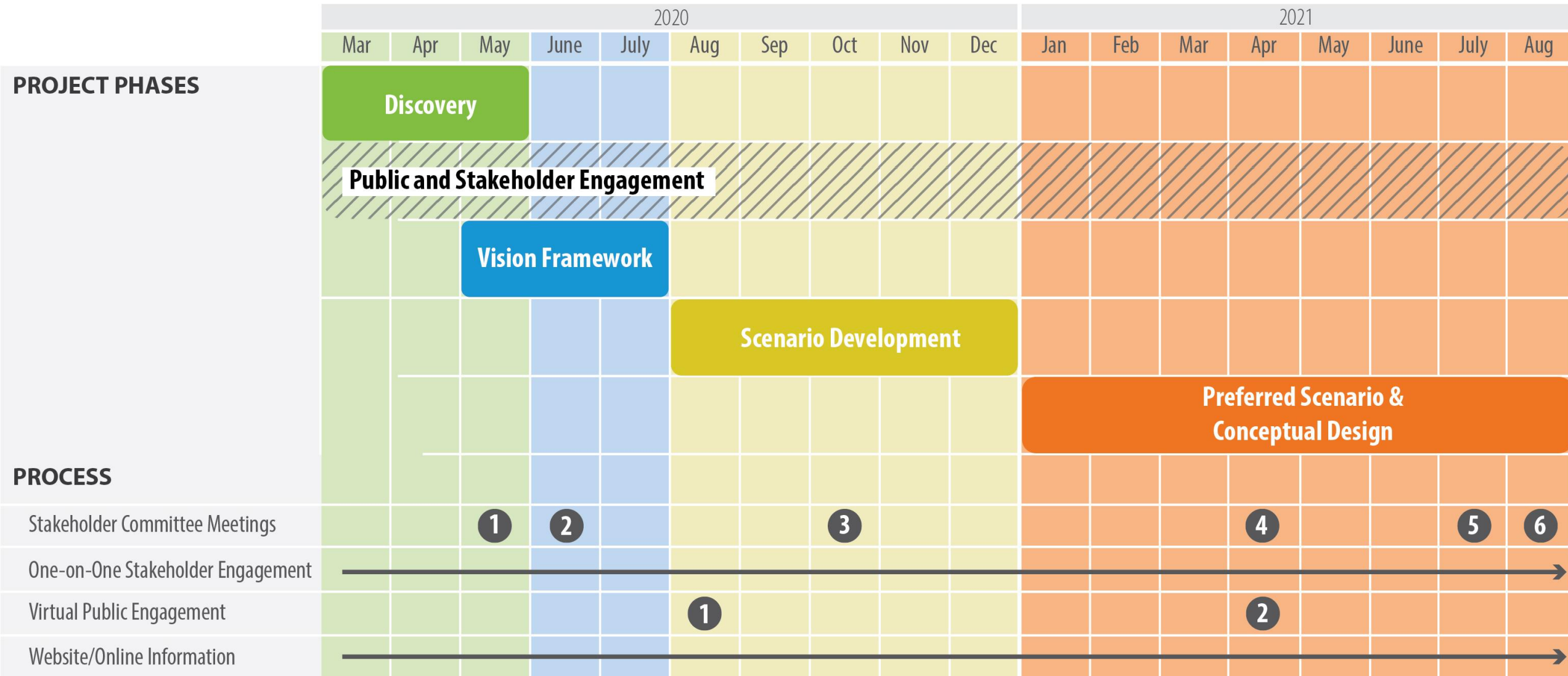
- Costs associated with removal of bridge
- Requires regrading of entire site
- Standard, large at-grade intersection at Colfax and Federal
- Increase of conflict points between vehicles and bikes/peds

Evaluation Matrix

Colfax and Federal Evaluation Matrix July 2021

	EQUITY Create a pedestrian, bike and transit network that provides mutually beneficial access for all ages and abilities between existing and future uses.		RESILIENCY Strengthen mobility options and create visibly integrated transportation modes that provide redundancy in the transportation system.		CONNECTIVITY Develop cohesive multi-modal network that creates efficient access and supporting infrastructure between modes .		HEALTH & SAFETY Redesign the interchange to ensure safe movements for all modes: pedestrians, bicycles, transit users, and vehicles. Create safe and comfortable access to public recreational uses.	
	Mutually beneficial access for all	Multi Modal	Strengthen Options	Visibly Integrated Transportation	Efficient Access	Transition between Modes	Safe Movements	Multiple Modes
MOBILITY	<ul style="list-style-type: none"> Ensure convenient access to transit Create connections between residential uses and future destinations 	<ul style="list-style-type: none"> Provide safe and comfortable pedestrian environment Don't forget about bikes and transit environment 	<ul style="list-style-type: none"> Create infrastructure that supports multiple modes 	<ul style="list-style-type: none"> Create redundancy in the transportation system by establishing strong mobility options 	<ul style="list-style-type: none"> Develop a cohesive bicycle and pedestrian network designed for comfort for all users 	<ul style="list-style-type: none"> Fill sidewalk gaps and improve crossings 	<ul style="list-style-type: none"> Reduce pedestrian fatalities through visible, safe pedestrian crossings 	<ul style="list-style-type: none"> Create an environment that supports active mobility options and opportunities
	STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES	
	<ul style="list-style-type: none"> Establishes a strong grid network Local street connection from established neighborhood to new development Equally distributed geographical access 		<ul style="list-style-type: none"> Integrates new roadway system with Stadium District and transit Provides additional access points to Colfax and to Federal Less potential for heat island effect 		<ul style="list-style-type: none"> Increases local connectivity across site and to transit station Good ped/bike bridge connection to NW Improved connection to transit station from Colfax and from Elliot Signal timing spacing may not meet CDOT's standards 		<ul style="list-style-type: none"> Grid networks gives options to moving in/between neighborhood(s) Larger intersection at Federal/Colfax Connection for NW neighborhoods to Lakewood Gulch 	
	NOTE:		NOTE:		NOTE:		NOTE:	
	NOTES:		NOTES:		NOTES:		NOTES:	
ENVIRONMENTAL & STORMWATER	EQUITY Manage local and regional stormwater to reduce flooding risks for existing properties and future development. Increase community education and awareness of flood risks.		RESILIENCY Implement stormwater strategies that enable the community to recover quickly after storm events. Implement green infrastructure that addresses water quality, biodiversity, heat island effects and reduces the impacts of climate change.		CONNECTIVITY Implement stormwater improvements that are compatible with and enhance mobility goals and development opportunities.		HEALTH & SAFETY Design stormwater improvements that increase public safety by mitigating both local and regional flood risks. Integrate landscapes which improve water quality and create a healthy environment.	
	Reduce Flooding	Community Education	Recovery Timeline	Green Infrastructure	Enhance Mobility	Compatible with Development	Public Safety Local & Regional	Integrate Landscape
	<ul style="list-style-type: none"> Reduce local flooding Improve water quality Consider stormwater needs with development 		<ul style="list-style-type: none"> Increase community of flood concerns and stormwater strategies 	<ul style="list-style-type: none"> Implement functional green infrastructure and stormwater amenities 	<ul style="list-style-type: none"> Link green street opportunities with mobility options 	<ul style="list-style-type: none"> Ensure sidewalks do not flood during local events 	<ul style="list-style-type: none"> Increase tree canopy Mitigate environmental hazards 	
	STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES		STRENGTH & WEAKNESSES	
	<ul style="list-style-type: none"> Reduces flooding and keeps the 100 year floodplain contained to proposed channel corridor Easier to educate if stormwater infrastructure is above ground Above ground facilities lead to wildlife 		<ul style="list-style-type: none"> Channel may require multiple drop structures High portion of above ground regional stormwater facility 		<ul style="list-style-type: none"> Provides open channel connection to Lakewood Gulch Roadway/trail will be grade separated from the open channel in some locations 		<ul style="list-style-type: none"> Open channel will create a "green" connection to Lakewood Gulch 	
NOTE:		NOTE:		NOTE:		NOTE:		

Next Steps | Schedule



Next Steps | Upcoming Meetings

- **July 1st** – Denver & CDOT project update
- **Week of July 12th** – PMT meeting & matrix ranking.
- **Week of 29th** – Stakeholder / Public Meeting
- **Early August** – PMT Review of scenario evaluation
- **Mid-August** – Stakeholder review of scenario evaluations
- **Late August** – Final report



QUESTIONS?