

# HILLCREST

## REDEVELOPMENT

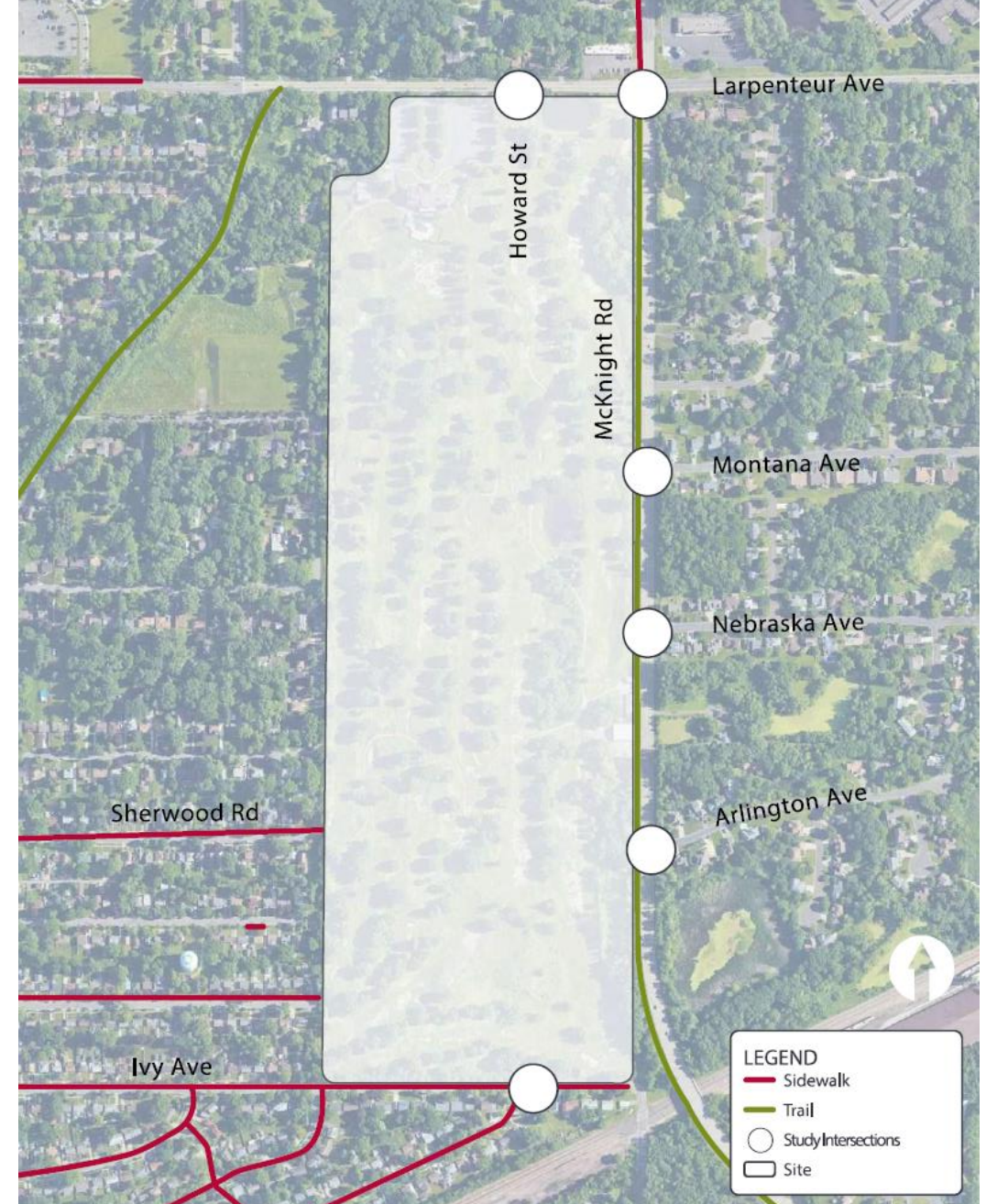
### TC PRESENTATION

February 22, 2021



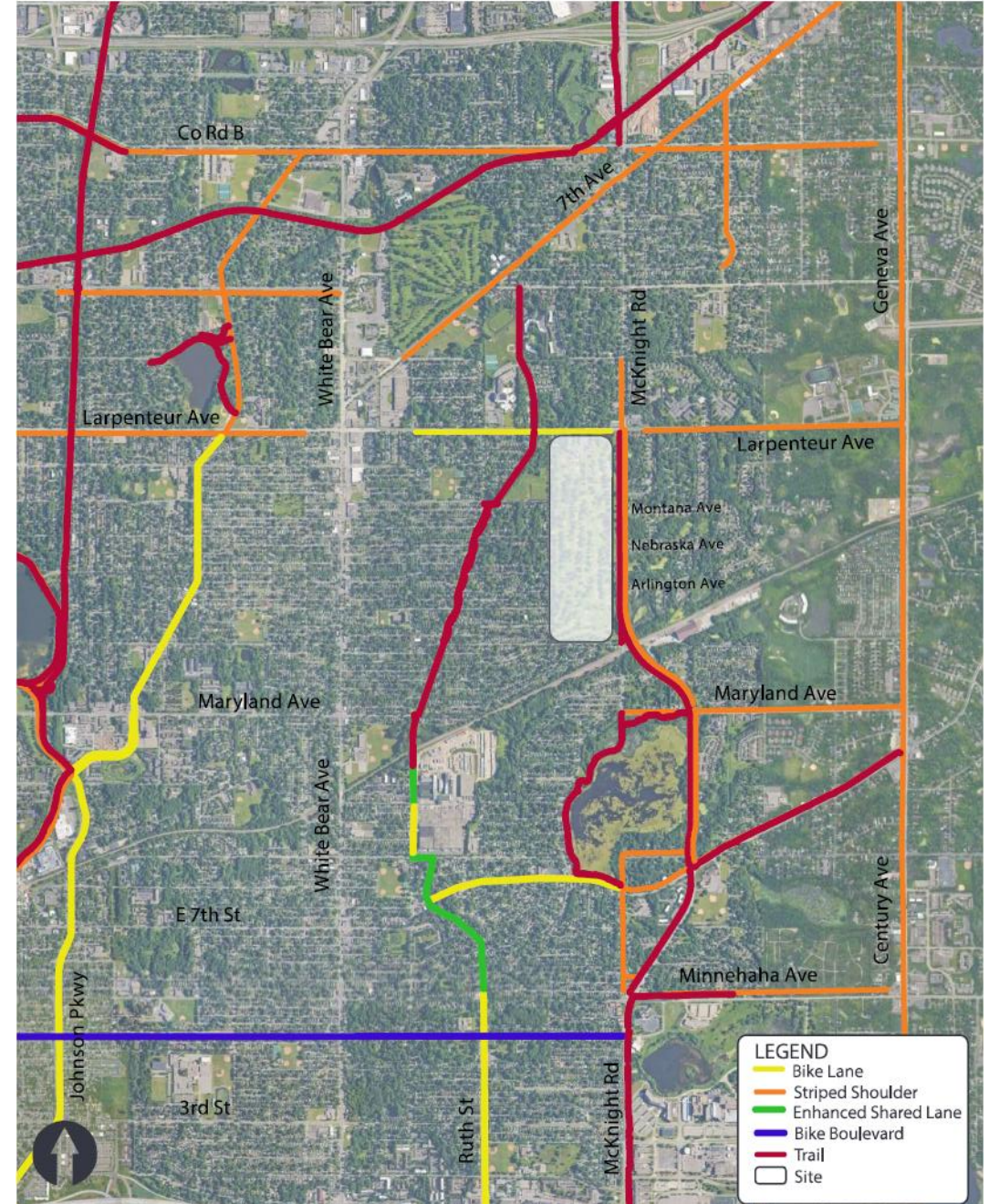
Kimley»Horn

# Study Intersections & Existing Pedestrian Facilities



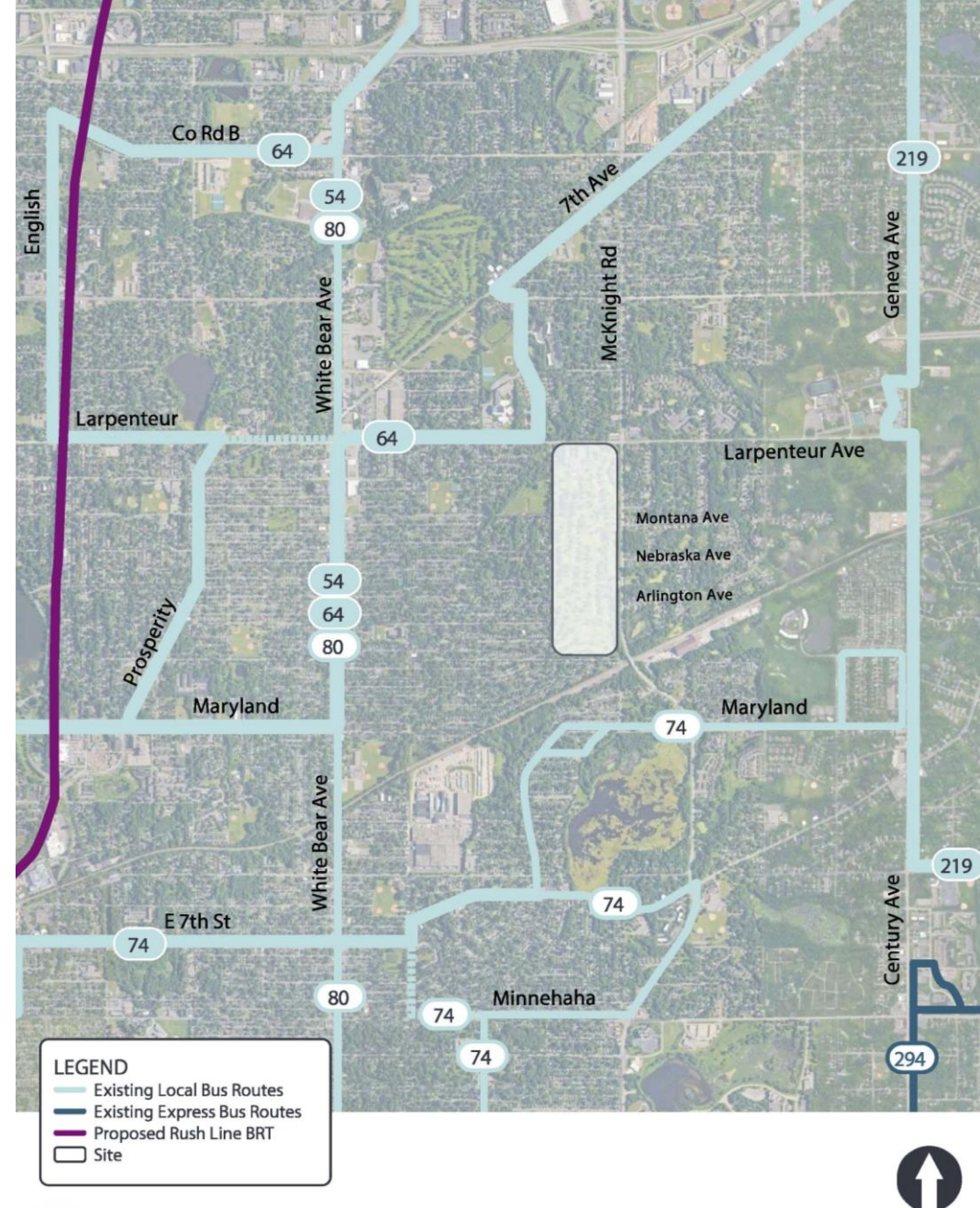


# Existing Bicycle Facilities





# Existing & Proposed Transit Facilities



## Existing & 2040 No Build Results

- Existing AM peak hour: no significant operational delays
- Existing PM peak hour: undesirable delays for eastbound and westbound movements at Larpenteur & McKnight
- 2040 No Build AM & PM peak hours: no significant operational delays.
  - Improved operations at Larpenteur & McKnight due to removal of the split phase for northbound and southbound

# Trip Generation

- Added Internal Capture
- 2.5% transit reduction
  - Doubling of existing ridership
- 2.5% bicycle reduction
  - City goals
  - Proximity to CBD
  - Access to regional network
- Updated alternatives have similar trip generation projections as prior alternatives

## Alternative 1 – Hilltop

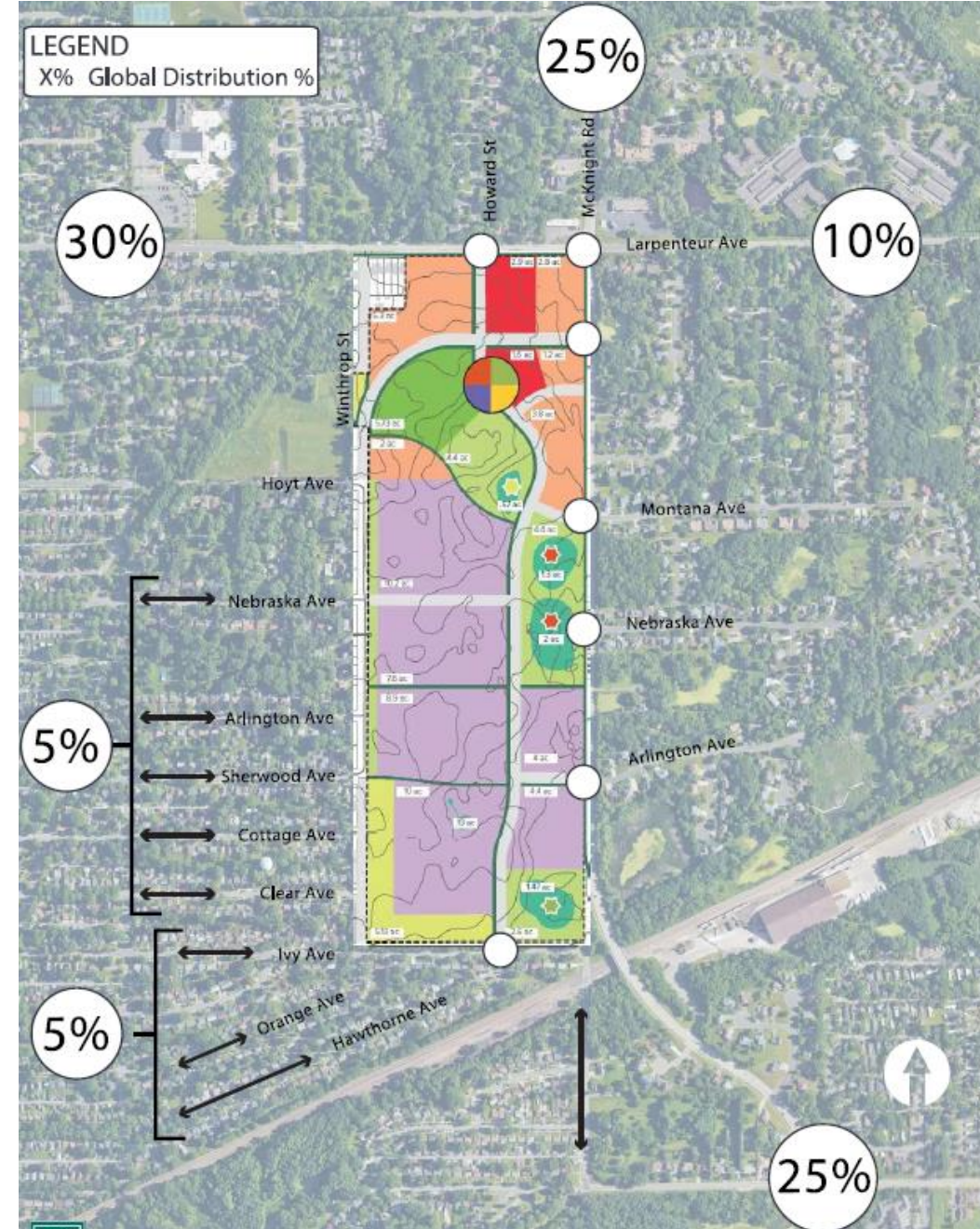
Land Use Description	ITE	Intensity / Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Light Industrial	110	686,805 Square Feet	3,407	423	58	481	56	377	433
Multifamily Housing (Low-Rise)	220	774 Dwelling Units	5,666	82	274	356	273	160	433
Multifamily Housing (Mid-Rise)	221	377 Dwelling Units	2,051	35	101	136	101	65	166
Public Park	411	5.7 Acres	209	4	2	6	11	9	20
TOTAL SITE TRIPS			11,332	544	435	979	441	611	1,052
ROUNDED TOTAL SITE TRIPS			11,330	545	435	980	440	610	1,050
SITE TRIPS MINUS INTERNAL CAPTURE (5%) & MULTIMODAL REDUCTION (5%)			10195	490	390	880	395	550	945

## Alternative 2 – Jobs Focus

Land Use Description	ITE	Intensity / Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Development									
General Light Industrial	110	834,588 Square Feet	4,140	514	70	584	68	458	526
Multifamily Housing (Low-Rise)	220	779 Dwelling Units	5,702	82	276	358	275	161	436
Multifamily Housing (Mid-Rise)	221	124 Dwelling Units	675	12	33	45	34	21	55
Public Park	411	4.8 Acres	176	3	2	5	9	8	17
TOTAL SITE TRIPS			10,693	611	381	992	386	648	1,034
ROUNDED TOTAL SITE TRIPS			10,695	610	380	990	385	650	1,035
SITE TRIPS MINUS INTERNAL CAPTURE (5%) & MULTIMODAL REDUCTION (5%)			9625	550	340	890	345	585	930

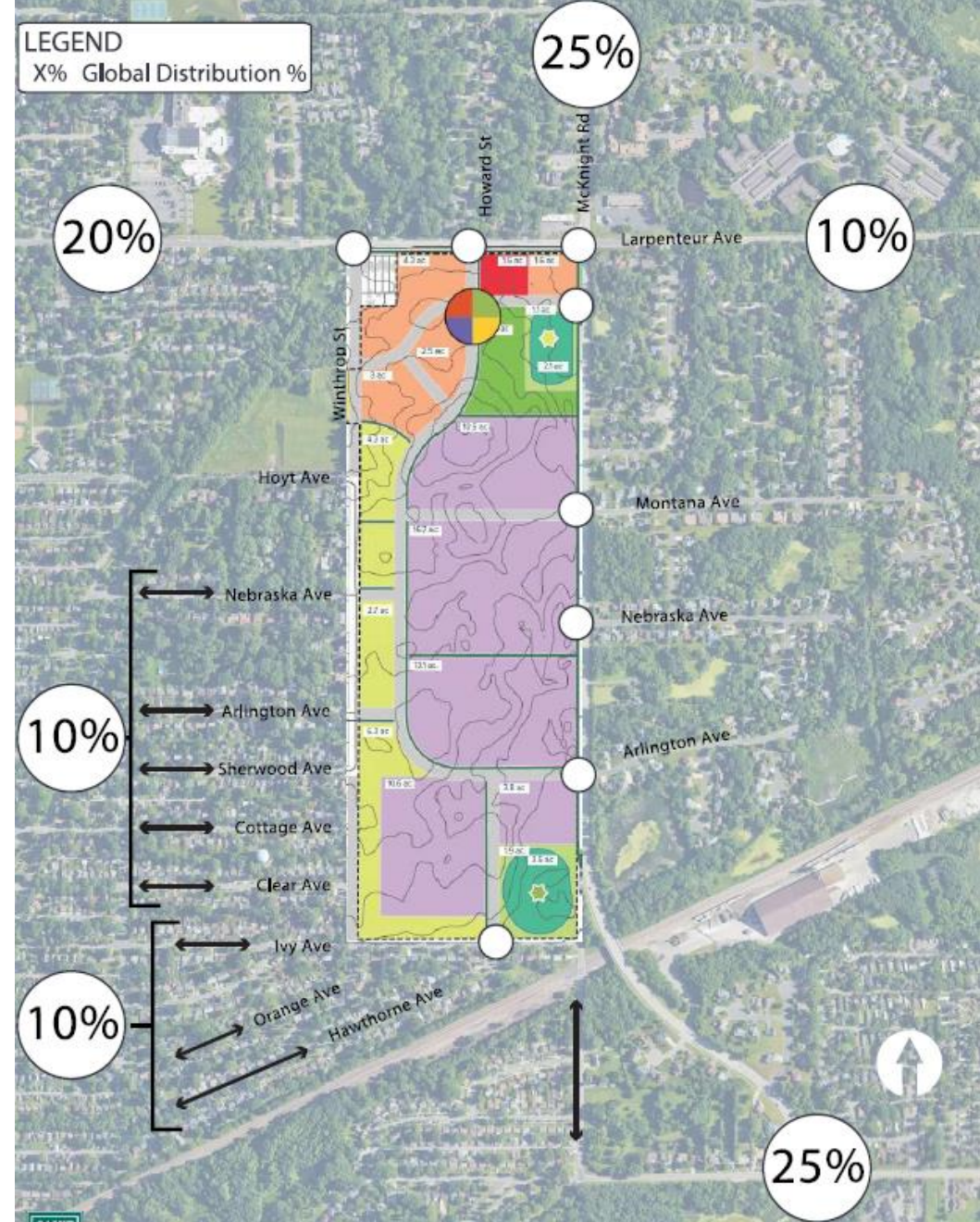


## 2040 Alternative 1 Hilltop Distribution





# 2040 Alternative 2 Jobs Focus Distribution





# 2040 Alternative 1 Hilltop Daily Volumes

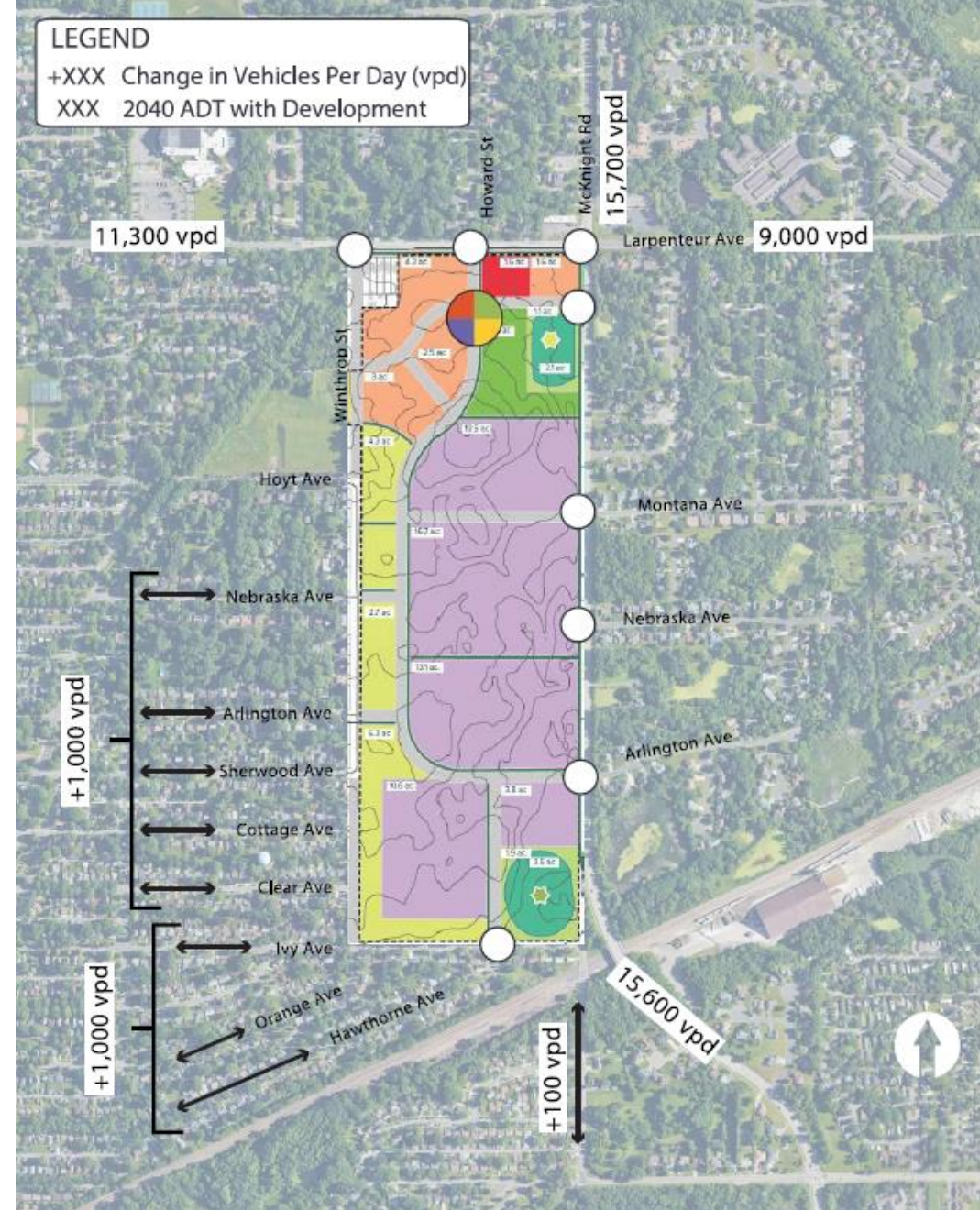
- Existing daily traffic on side streets
  - Nebraska Ave, Arlington Ave, Sherwood Ave, Cottage Ave, and Clear Ave  $\approx 400$  vpd
  - Ivy Ave  $\approx 1550$  vpd
  - Hawthorne Ave  $\approx 700$  vpd
  - Orange Ave  $\approx 700$  vpd





## 2040 Alternative 2 Jobs Focus Daily Volumes

- Existing daily traffic on side streets
  - Nebraska Ave, Arlington Ave, Sherwood Ave, Cottage Ave, and Clear Ave  $\approx 400$  vpd
  - Ivy Ave  $\approx 1550$  vpd
  - Hawthorne Ave  $\approx 700$  vpd
  - Orange Ave  $\approx 700$  vpd





## 2040 Alternative 1 Build – AM Peak Hour Operations

- Assumed full access with a single lane minor street approach
- All unsignalized side-street stop

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Larpenteur Ave & Howard St	Side Street Stop	EB	3.0	A	1.7	A	0.9	A	15.8	C
		WB	6.5	A	2.8	A	2.4	A		
		NB	15.8	C	-	-	9.9	A		
		SB	11.2	B	-	-	4.9	A		
Larpenteur Ave & McKnight Rd	Signal	EB	45.0	D	38.9	D	25.9	C	32.0	C
		WB	47.7	D	52.6	D	36.2	D		
		NB	30.5	C	19.2	B	12.7	B		
		SB	27.1	C	34.0	C	28.3	C		
Montana Ave & McKnight Rd	Side Street Stop	EB	21.9	C	-	-	10.5	B	24.0	C
		WB	24.0	C	-	-	10.8	B		
		NB	4.8	A	0.9	A	0.1	A		
		SB	5.1	A	3.0	A	1.9	A		
Nebraska Ave & McKnight Rd	Side Street Stop	EB	-	-	-	-	-	-	14.5	B
		WB	14.5	B	-	-	4.5	A		
		NB	-	-	0.8	A	0.2	A		
		SB	4.6	A	1.1	A	-	-		
Arlington Ave & McKnight Rd	Side Street Stop	EB	27.0	D	-	-	13.5	B	27.0	D
		WB	25.4	D	-	-	7.1	A		
		NB	6.8	A	1.1	A	0.2	A		
		SB	4.2	A	2.8	A	1.1	A		
Hawthorne Ave & Ivy Ave	Side Street Stop	EB	1.9	A	0.2	A	0.1	A	6.7	A
		WB	2.1	A	0.3	A	-	-		
		NB	4.5	A	6.6	A	2.8	A		
		SB	-	-	6.7	A	2.5	A		
Northern Site Access & McKnight Rd	Side Street Stop	EB	38.9	E	-	-	15.8	C	38.9	E
		WB	-	-	-	-	-	-		
		NB	9.4	A	2.1	A	-	-		
		SB	-	-	5.0	A	2.9	A		

## 2040 Alternative 1 Build – PM Peak Hour Operations

- Northern site access on McKnight Road operates poorly due to the close proximity to McKnight Road & Larpenteur Avenue. Limited Access is recommended.

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Larpenteur Ave & Howard St	Side Street Stop	EB	5.2	A	1.8	A	1.0	A	16.9	C
		WB	6.1	A	2.6	A	2.2	A		
		NB	23.1	C	-	-	15.6	C		
		SB	16.9	C	-	-	5.1	A		
Larpenteur Ave & McKnight Rd	Signal	EB	47.9	D	48.0	D	33.1	C	31.6	C
		WB	38.2	D	40.7	D	29.9	C		
		NB	23.5	C	28.1	C	22.0	C		
		SB	33.9	C	25.0	C	17.8	B		
Montana Ave & McKnight Rd	Side Street Stop	EB	24.7	C	-	-	9.5	A	24.7	C
		WB	23.6	C	-	-	8.5	A		
		NB	3.9	A	1.4	A	0.4	A		
		SB	6.6	A	2.4	A	1.9	A		
Nebraska Ave & McKnight Rd	Side Street Stop	EB	-	-	-	-	-	-	19.3	C
		WB	19.3	C	-	-	9.0	A		
		NB	-	-	1.4	A	0.7	A		
		SB	5.8	A	0.9	A	-	-		
Arlington Ave & McKnight Rd	Side Street Stop	EB	31.6	D	-	-	19.8	C	31.6	D
		WB	15.4	C	-	-	6.1	A		
		NB	5.5	A	1.5	A	0.7	A		
		SB	6.5	A	2.2	A	0.8	A		
Hawthorne Ave & Ivy Ave	Side Street Stop	EB	2.2	A	0.1	A	-	-	6.8	A
		WB	2.1	A	0.3	A	-	-		
		NB	4.6	A	6.8	A	2.8	A		
		SB	-	-	6.3	A	3.2	A		
Northern Site Access & McKnight Rd	Side Street Stop	EB	96.3	F	-	-	64.6	F	96.3	F
		WB	-	-	-	-	-	-		
		NB	9.3	A	4.3	A	-	-		
		SB	-	-	4.4	A	2.5	A		



## 2040 Alternative 2 Build – AM Peak Hour Operations

- Per Ramsey County Access Spacing, the northern access on McKnight was analyzed as a right-in/right-out
- Assumed all other accesses were full access with single lane minor street approaches
- All unsignalized side-street stop

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Larpenteur Ave & Howard St	Side Street Stop	EB	3.4	A	1.3	A	0.7	A	10.5	B
		WB	5.0	A	2.8	A	2.2	A		
		NB	10.5	B	-	-	4.6	A		
		SB	10.3	B	-	-	4.9	A		
Larpenteur Ave & McKnight Rd	Signal	EB	44.6	D	42.5	D	27.2	C	31.4	C
		WB	54.4	D	51.9	D	35.4	D		
		NB	30.2	C	16.8	B	11.7	B		
		SB	24.1	C	32.2	C	23.4	C		
Montana Ave & McKnight Rd	Side Street Stop	EB	35.8	E	-	-	18.9	C	35.8	E
		WB	31.9	D	-	-	13.6	B		
		NB	6.7	A	1.1	A	0.2	A		
		SB	6.1	A	4.5	A	2.6	A		
Nebraska Ave & McKnight Rd	Side Street Stop	EB	-	-	-	-	-	-	14.4	B
		WB	14.4	B	-	-	10.2	B		
		NB	-	-	0.9	A	0.5	A		
		SB	4.8	A	1.6	A	-	-		
Arlington Ave & McKnight Rd	Side Street Stop	EB	27.0	D	-	-	10.3	B	27.0	D
		WB	22.3	C	-	-	6.2	A		
		NB	5.8	A	1.2	A	0.5	A		
		SB	3.4	A	2.0	A	0.6	A		
Hawthorne Ave & Ivy Ave	Side Street Stop	EB	1.9	A	0.3	A	0.4	A	6.3	A
		WB	2.0	A	0.3	A	-	-		
		NB	5.0	A	6.3	A	2.9	A		
		SB	-	-	6.3	A	2.6	A		
Larpenteur Ave and Winthrop St	Side Street Stop	EB	-	-	1.0	A	0.6	A	10.0	A
		WB	-	-	0.9	A	-	-		
		NB	10.0	A	-	-	-	-		
		SB	-	-	-	-	-	-		
Northern Site Access & McKnight Rd	Side Street Stop	EB	-	-	-	-	9.5	A	9.5	A
		WB	-	-	-	-	-	-		
		NB	-	-	4.7	A	-	-		
		SB	-	-	3.6	A	1.7	A		

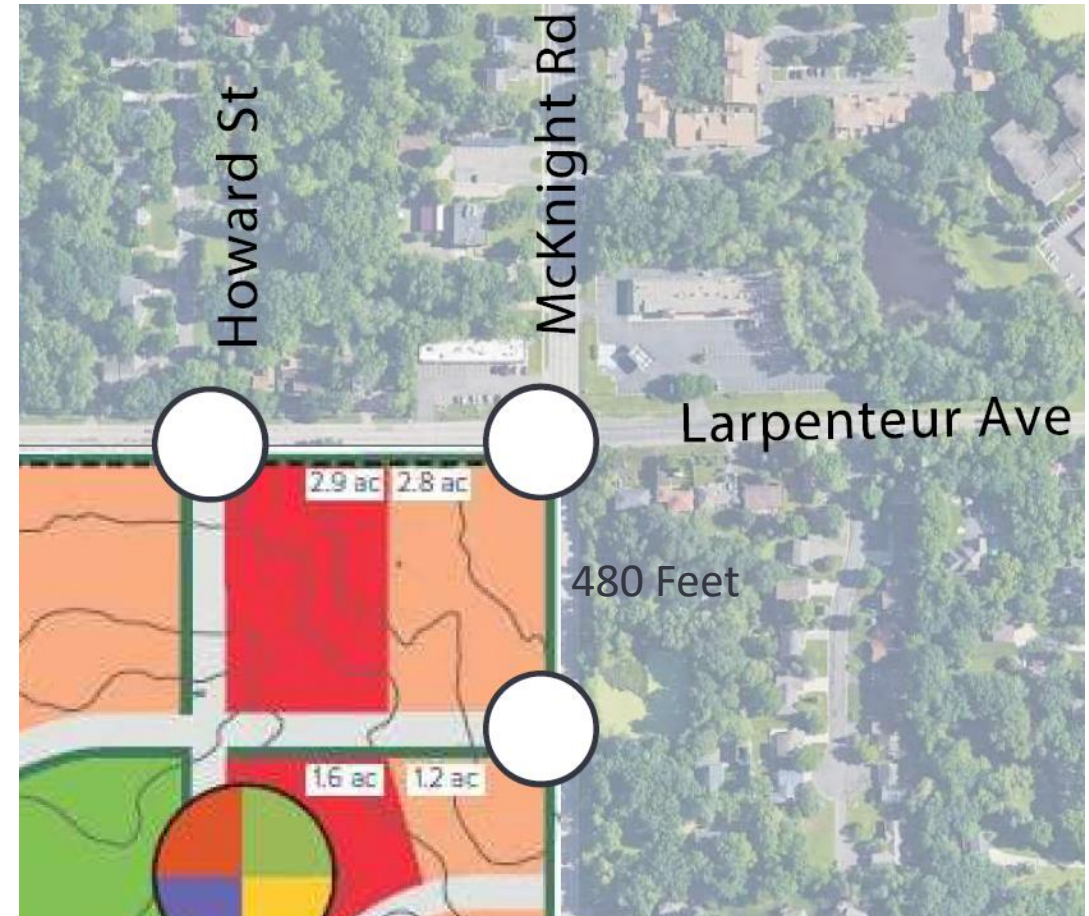
# 2040 Alternative 2 Build – PM Peak Hour Operations

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Larpenteur Ave & Howard St	Side Street Stop	EB	4.9	A	1.9	A	0.8	A	15.0	B
		WB	5.2	A	2.6	A	1.8	A		
		NB	12.7	B	-	-	7.9	A		
		SB	15.0	B	-	-	3.6	A		
Larpenteur Ave & McKnight Rd	Signal	EB	56.3	E	50.5	D	40.9	D	32.6	C
		WB	41.8	D	43.2	D	28.7	C		
		NB	23.9	C	25.1	C	17.3	B		
		SB	37.1	D	25.8	C	18.9	B		
Montana Ave & McKnight Rd	Side Street Stop	EB	53.2	F	-	-	37.2	E	53.2	F
		WB	21.8	C	-	-	10.0	A		
		NB	5.6	A	1.9	A	0.6	A		
		SB	8.7	A	3.2	A	1.7	A		
Nebraska Ave & McKnight Rd	Side Street Stop	EB	-	-	-	-	-	-	18.7	C
		WB	18.7	C	-	-	5.4	A		
		NB	-	-	1.3	A	0.7	A		
		SB	5.0	A	1.2	A	-	-		
Arlington Ave & McKnight Rd	Side Street Stop	EB	25.1	D	-	-	11.0	B	26.3	D
		WB	26.3	D	-	-	9.2	A		
		NB	4.0	A	1.3	A	0.3	A		
		SB	6.3	A	1.9	A	0.5	A		
Hawthorne Ave & Ivy Ave	Side Street Stop	EB	2.1	A	0.2	A	-	-	6.8	A
		WB	2.1	A	0.3	A	-	-		
		NB	5.0	A	6.8	A	3.1	A		
		SB	-	-	6.7	A	3.4	A		
Larpenteur Ave & Winthrop St	Side Street Stop	EB	-	-	0.7	A	0.3	A	11.8	B
		WB	-	-	1.0	A	-	-		
		NB	11.8	B	-	-	-	-		
		SB	-	-	-	-	-	-		
Northern Site Access & McKnight Rd	Side Street Stop	EB	-	-	-	-	8.6	A	8.6	A
		WB	-	-	-	-	-	-		
		NB	-	-	22.9	C	-	-		
		SB	-	-	3.1	A	1.4	A		



## Alternative 1 - Hilltop McKnight Road & Larpenteur Avenue Queuing Table

- No queuing issues along Larpenteur Avenue
- Access on McKnight Road is 480 feet from McKnight Road & Larpenteur intersection
  - NB through queues of McKnight Road = 490 ft
  - NB Left turn queues on McKnight Road = 300 ft
- RIRO will not be impacted by McKnight Road Queues

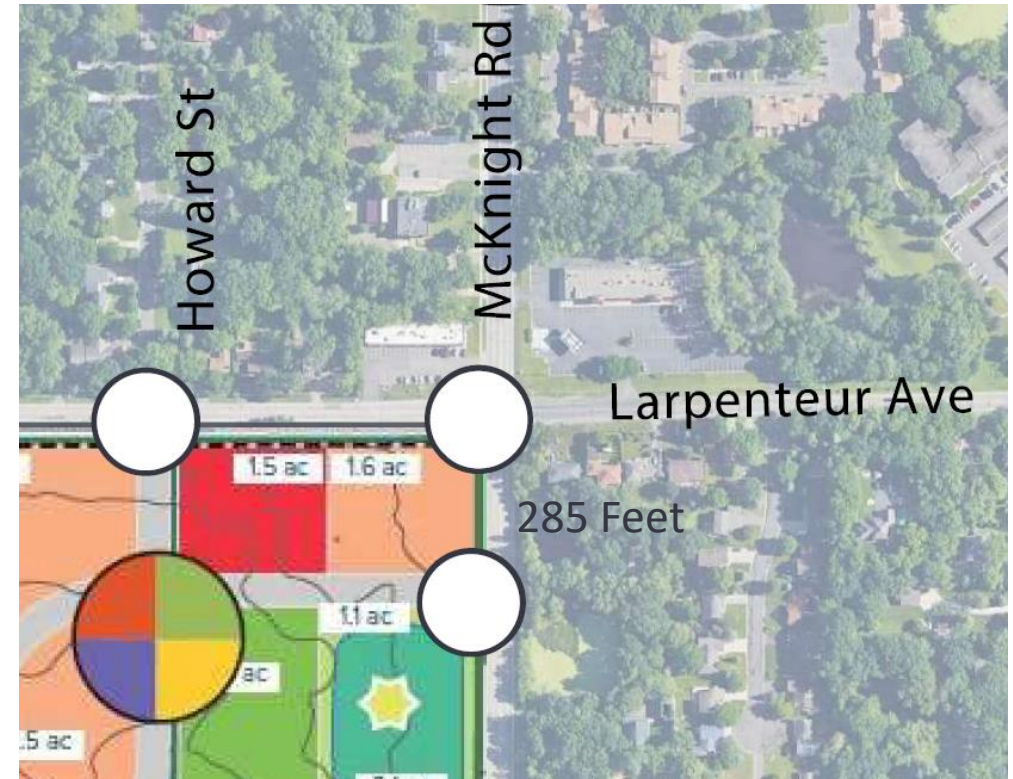


## Alternative 2 – Jobs Focus

### McKnight Road & Larpenteur Avenue

#### Queuing Comparison Table

- No queuing issues along Larpenteur Avenue
- Access on McKnight Road is 285 feet from McKnight Road & Larpenteur intersection
  - NB through queues of McKnight Road = 510 ft
  - NB Left turn queues on McKnight Road = 175 ft
- RIRO will not be impacted by McKnight Road Queues





# Multimodal Connections and to existing Infrastructure

- Sidewalks are provided on all streets on site
- A direct trail connection from McKnight to Furness Trail through the site is ideal.





# Multimodal Connections Future Infrastructure

- Sidewalks planned on all streets and several trails shown in concepts
- Offsite improvements are required to fill in some gaps
  - Sidewalk segment on McKnight southeast of site
  - Arlington does not have sidewalk between Furness Trail and the site

