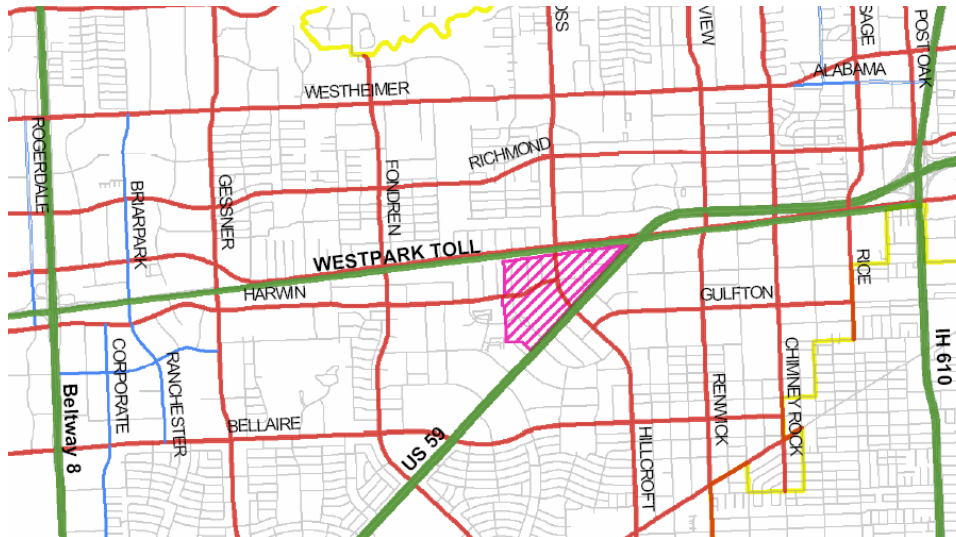


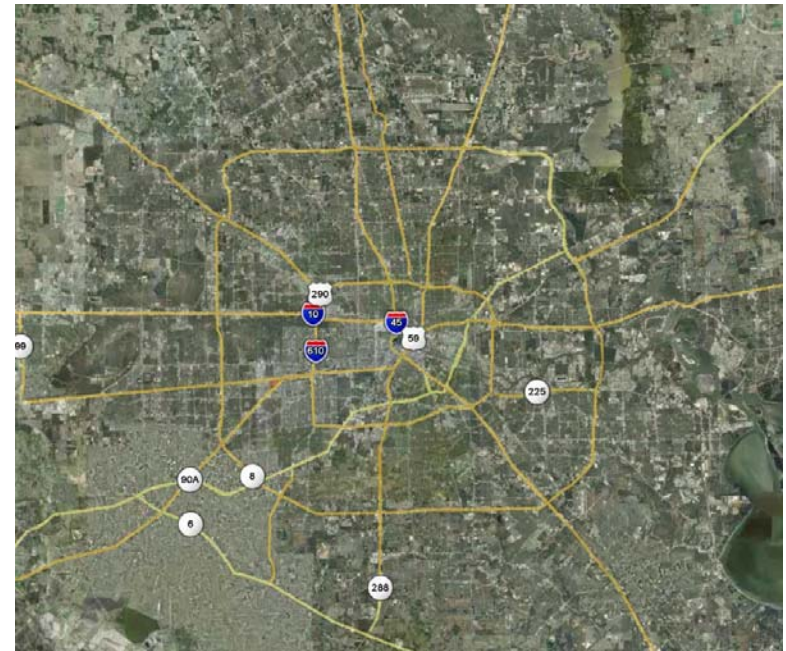
CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



2007 MTFP



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



WESTPARK TOLL

WESTPARK Drive

Harwin Drive

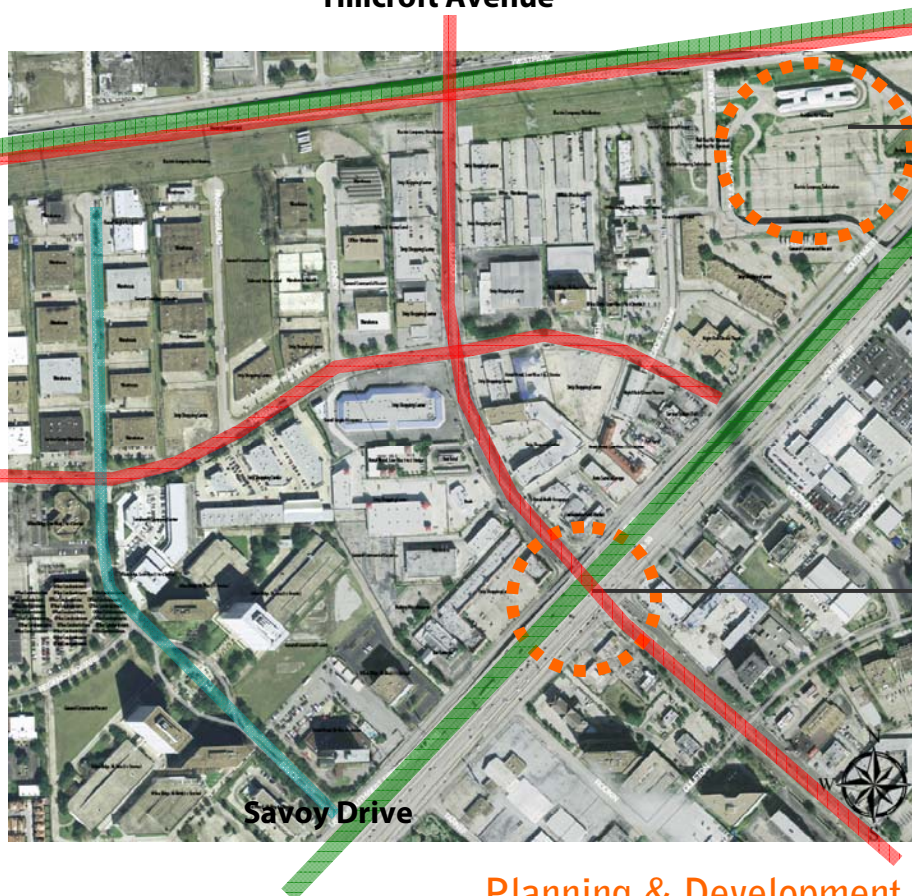
Savoy Drive

Hillcroft Avenue

Hillcroft Transit Center

US 59

Interchange

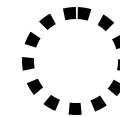


CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group

LAND USE



Major Commercial complex

Industrial



Commercial /office



Vacant

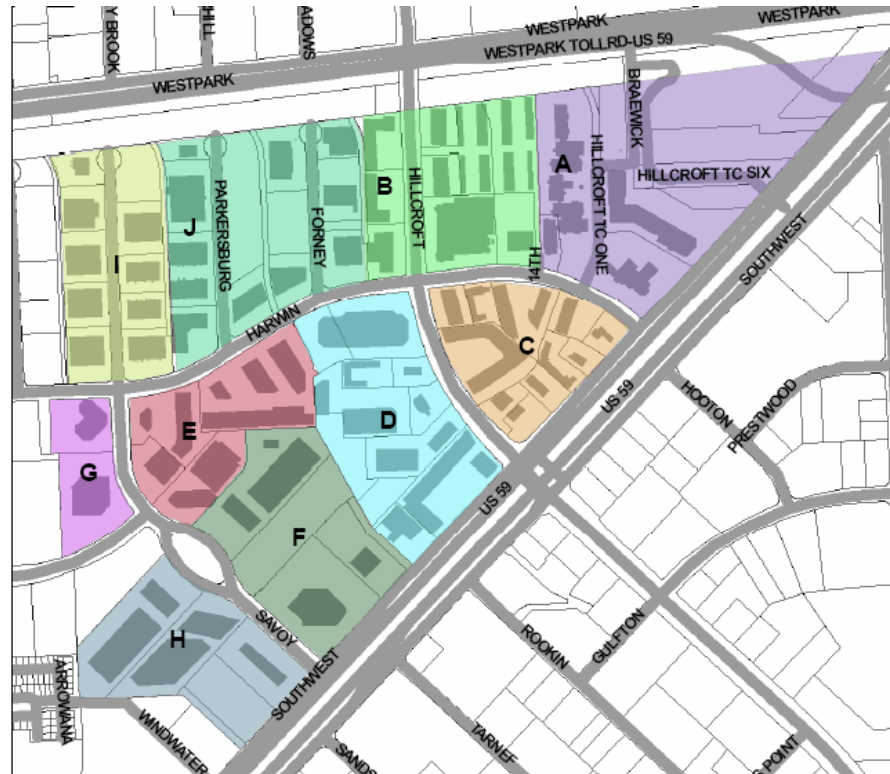


CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group

SECTIONS



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



SCOPE OF WORK

- Identifying the major driveways and to observe the existing roadway conditions
- documenting the traffic delays and Level of Service for the intersections and driveways
- Identifying possible deficiencies in the existing circulation system and to provide alternative improvements plans
- Recommending traffic improvement plans



CIRCULATION STUDY

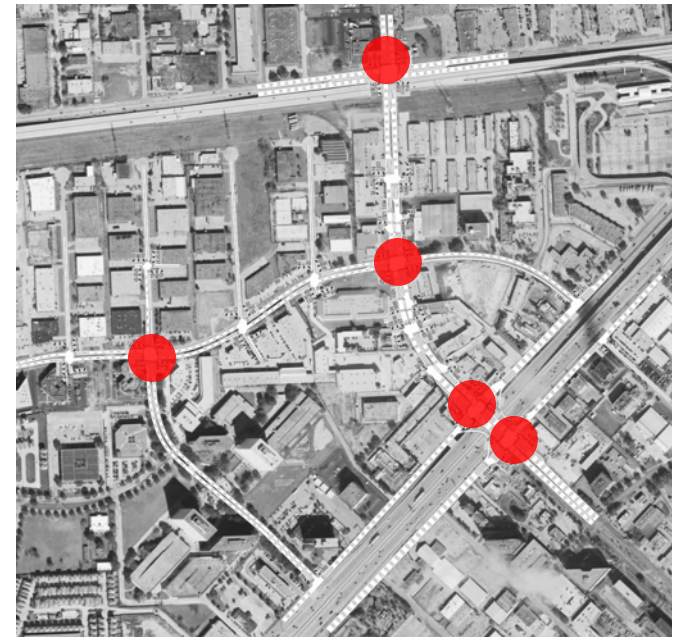
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Retime the existing five signals



CIRCULATION STUDY

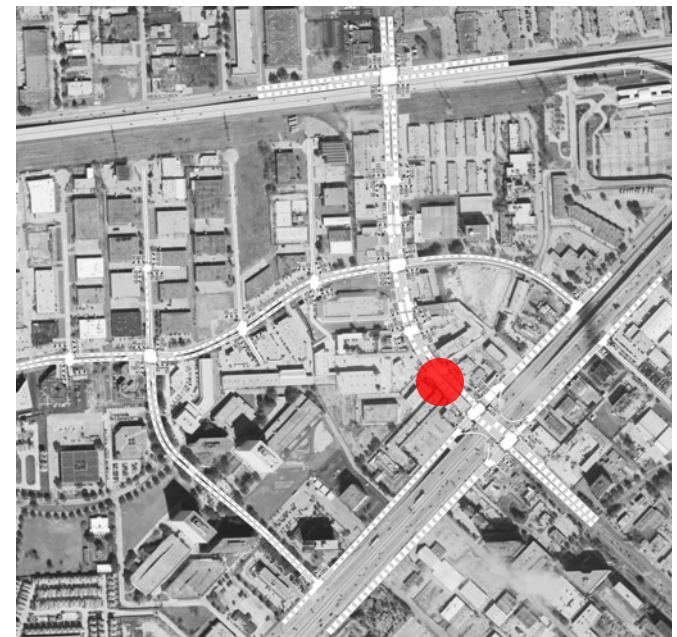
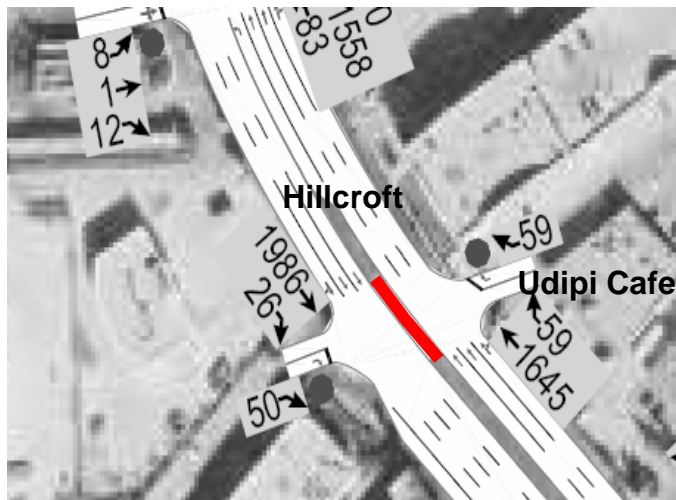
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Close the median on Hillcroft adjacent to the Udipi café Driveway



CIRCULATION STUDY

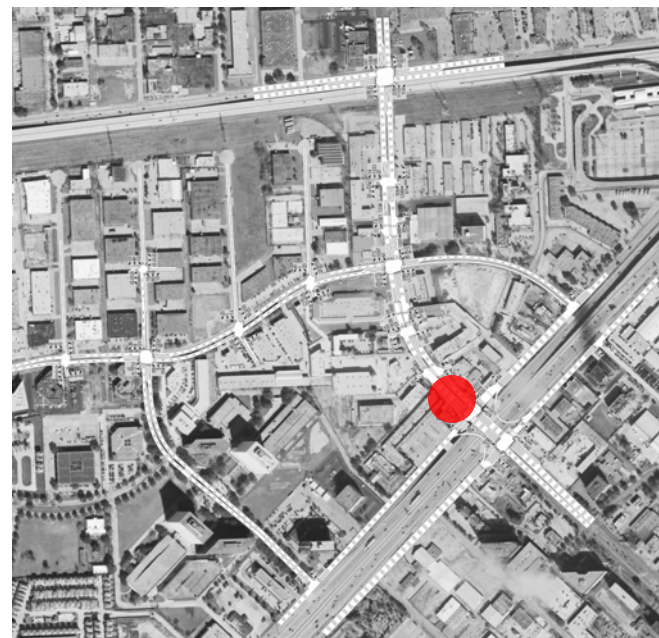
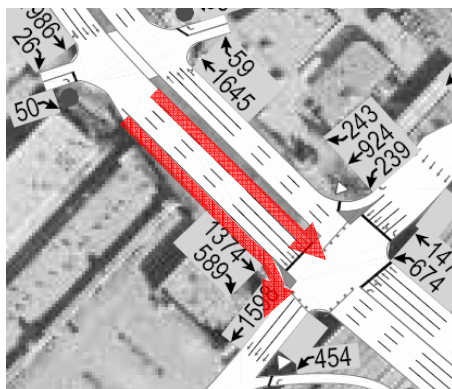
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Extend the right turn only lane to 400 feet on the southbound approach of Hillcroft at the US 59 and Hillcroft intersection
- Extend the existing striping of the left turn only lane on the southbound approach of Hillcroft at the US 59 and Hillcroft intersection



CIRCULATION STUDY

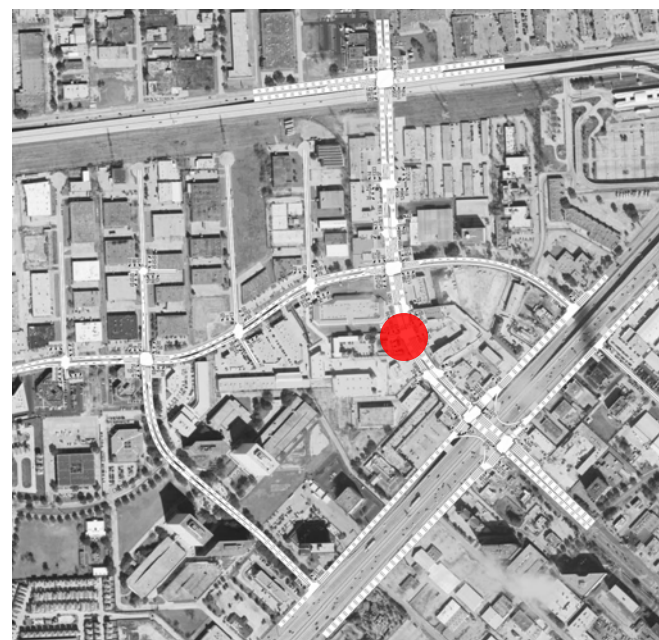
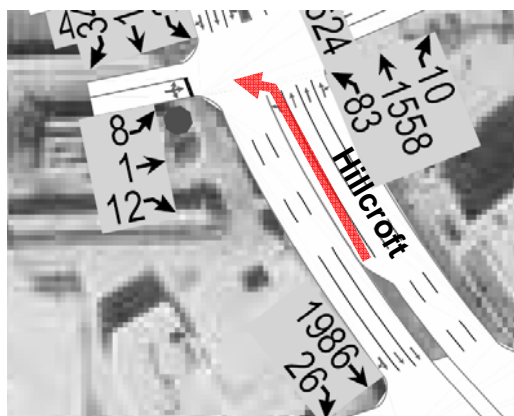
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Extend the existing left turn storage lane to 150 feet on the northbound approach of Hillcroft at the Sonic restaurant driveway and Hillcroft intersection



CIRCULATION STUDY

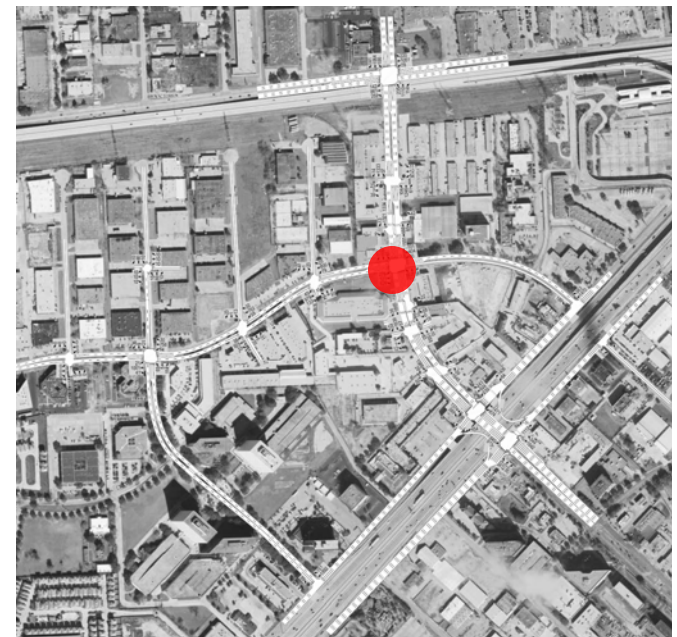
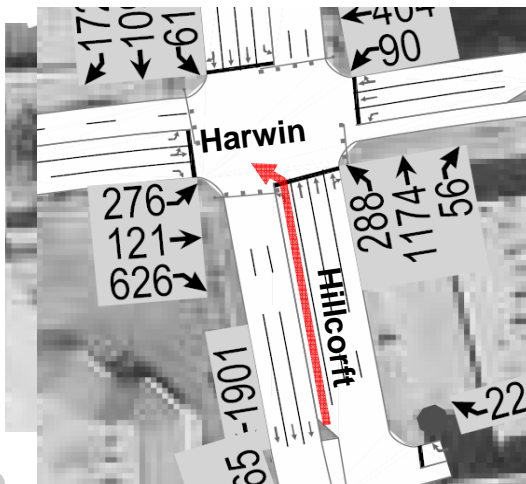
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Extend the existing left turn storage lane to 175 feet on the northbound approach of Hillcroft at the Harwin and Hillcroft intersection



CIRCULATION STUDY

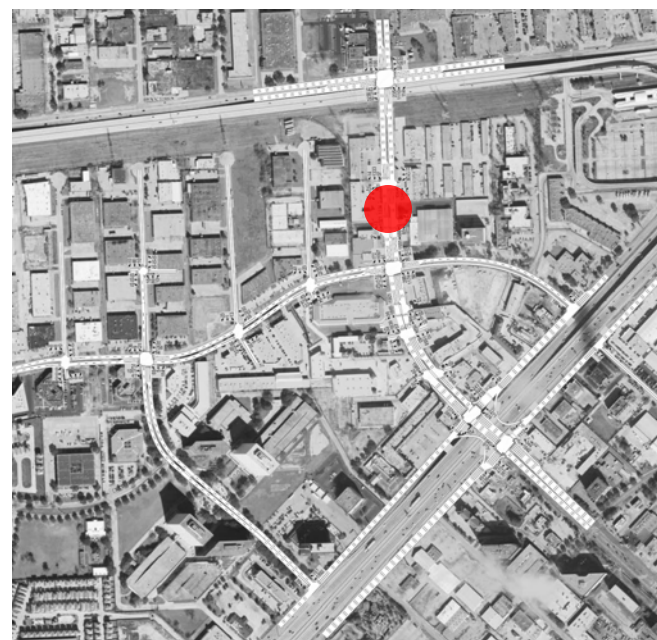
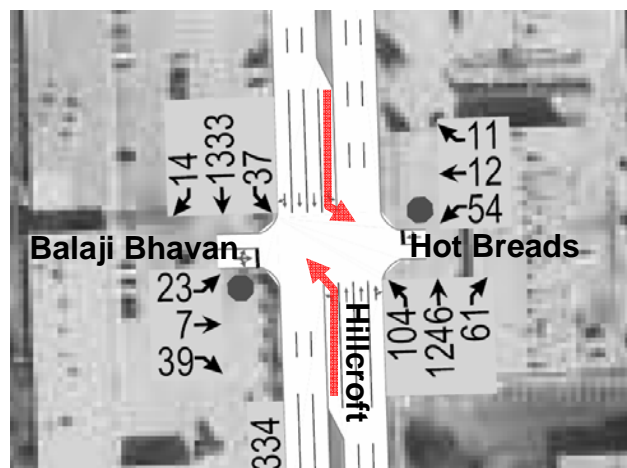
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Add left turn storage lanes of 100 feet on both south and northbound approaches of Hillcroft at the Hot Breads/Balaji Bhavan Driveways and Hillcroft intersection



CIRCULATION STUDY

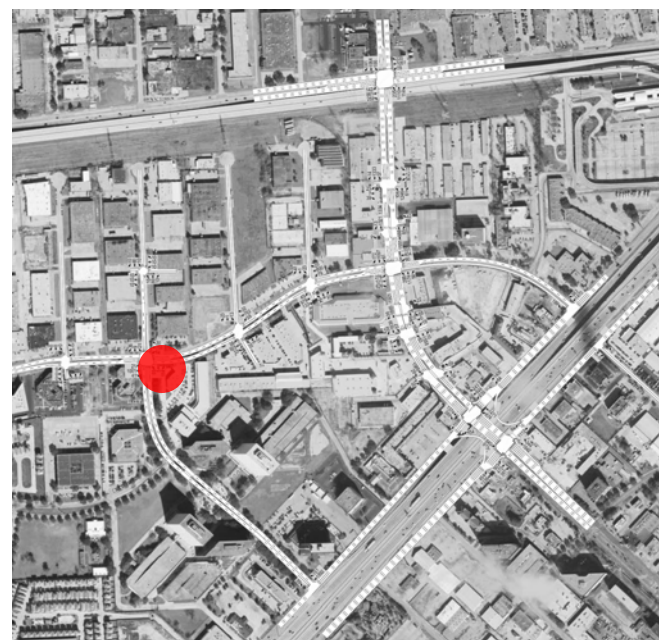
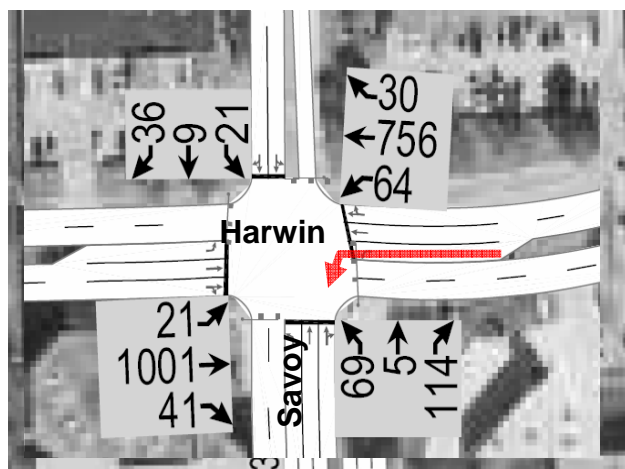
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Add left turn storage lane of 100 feet on eastbound approach of Harwin at the Savoy and Harwin intersection



CIRCULATION STUDY

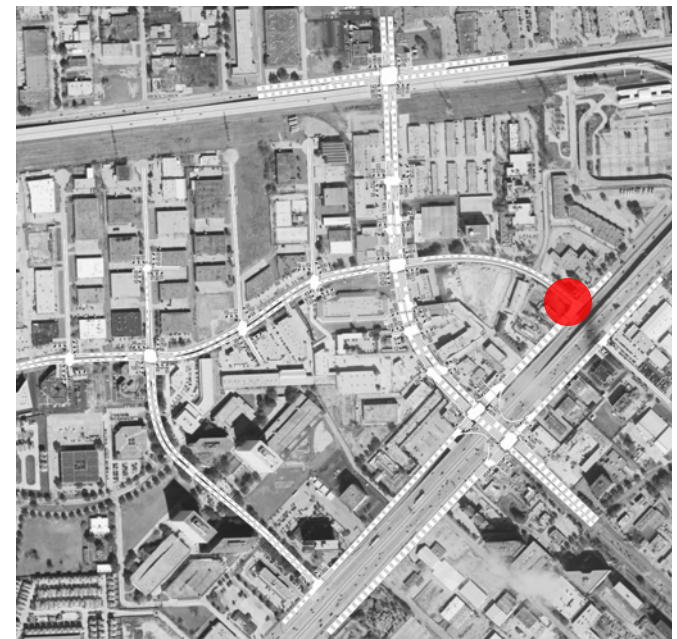
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



RECOMMENDATION

- Add right turn storage lane of 100 feet on westbound approach of US 59 at the Harwin and US 59 intersection



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

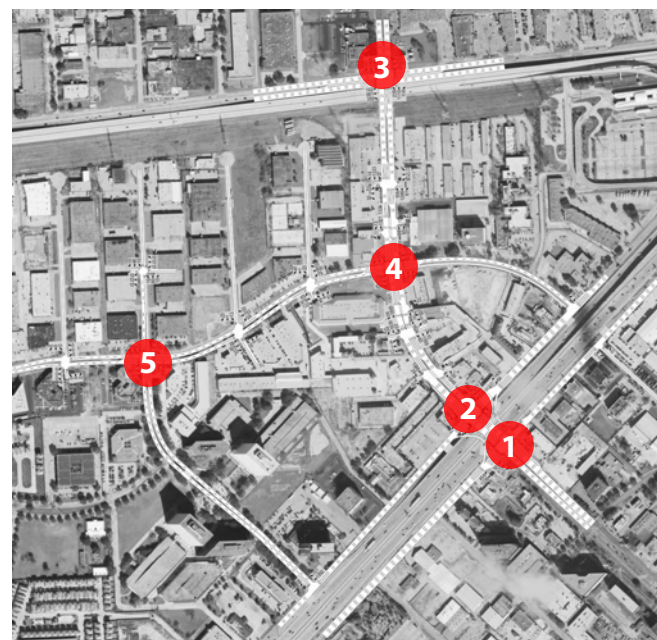
Transportation Group



PROPOSED RESULTS

Signalized Intersection

Intersection Name	Current Level of Service of Intersection	Level of Service of Intersection with Recommendations
1. Hillcroft Avenue @ US 59 ESR	E	D
2. Hillcroft Avenue @ US 59 WSR	E	D
3. Hillcroft Avenue @ Westpark Drive	E	D
4. Hillcroft Avenue @ Harwin Drive	E	D
5. Harwin Drive @ Savoy Drive	A	A



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



PROPOSED RESULTS

Un-signalized Intersection

Intersection Name	Current Level of Service of Intersection	Level of Service of Intersection with Recommendations
1. Harwin Drive @ Forney Drive	D	D
2. Harwin Drive @ Parkersburg Drive	D	D
3. Savoy Drive @ US 59 WSR	C	C
4. Harwin Drive @ US 59 WSR	D	C



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

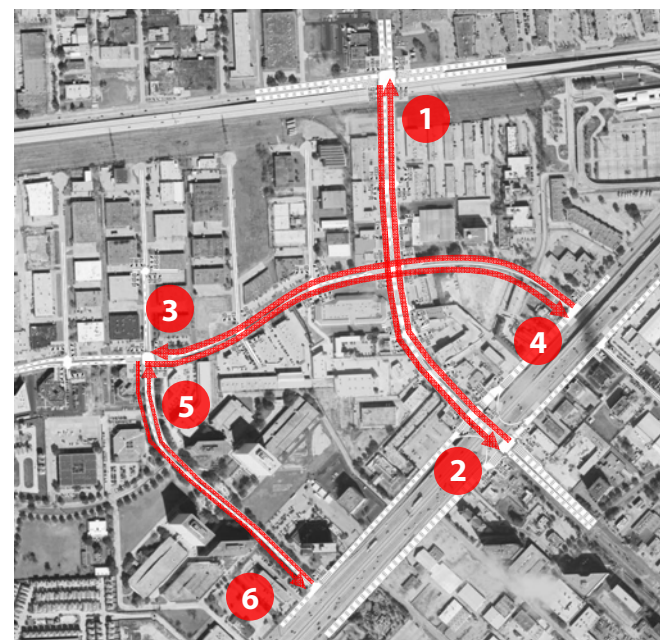
Transportation Group



PROPOSED RESULTS

Arterial Level Of Service

Arterial Name	Direction	From	To	Current Level of Service of Arterial	Level of Service of Arterial with Recommendations
1. Hillcroft Avenue	NB	US 59 ESR	Westpark Drive	F	F
2. Hillcroft Avenue	SB	US 59 ESR	Westpark Drive	F	F
3. Harwin Drive	EB	US 59 WSR	Savoy Drive	E	D
4. Harwin Drive	WB	US 59 WSR	Savoy Drive	E	D
5. Savoy Drive	NB	Harwin Drive	US 59 WSR	C	C
6. Savoy Drive	SB	Harwin Drive	US 59 WSR	C	C



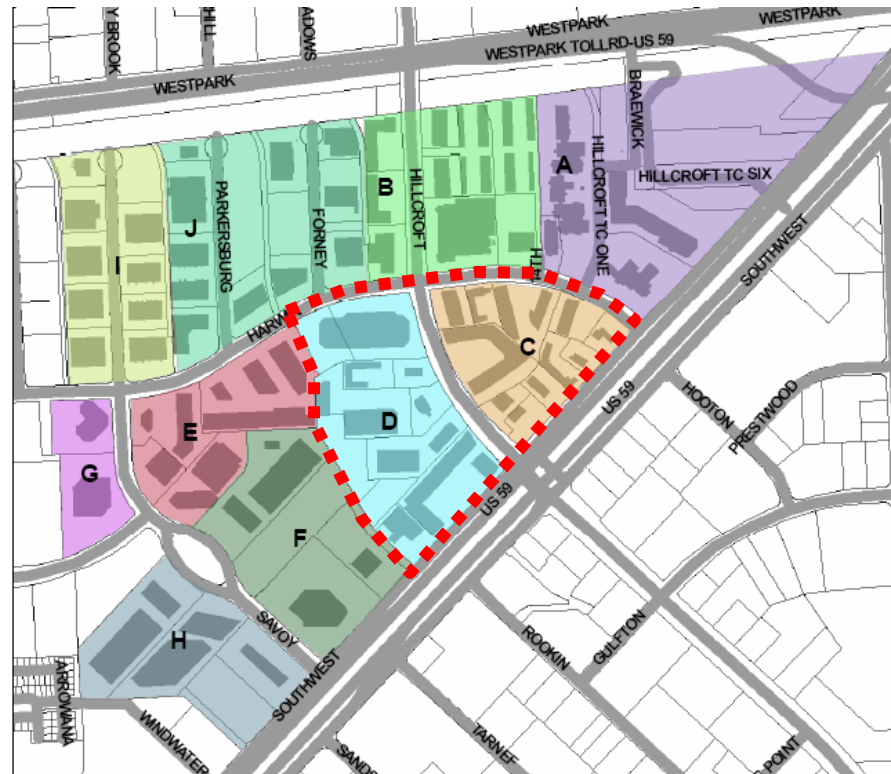
CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

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SECTION C / D



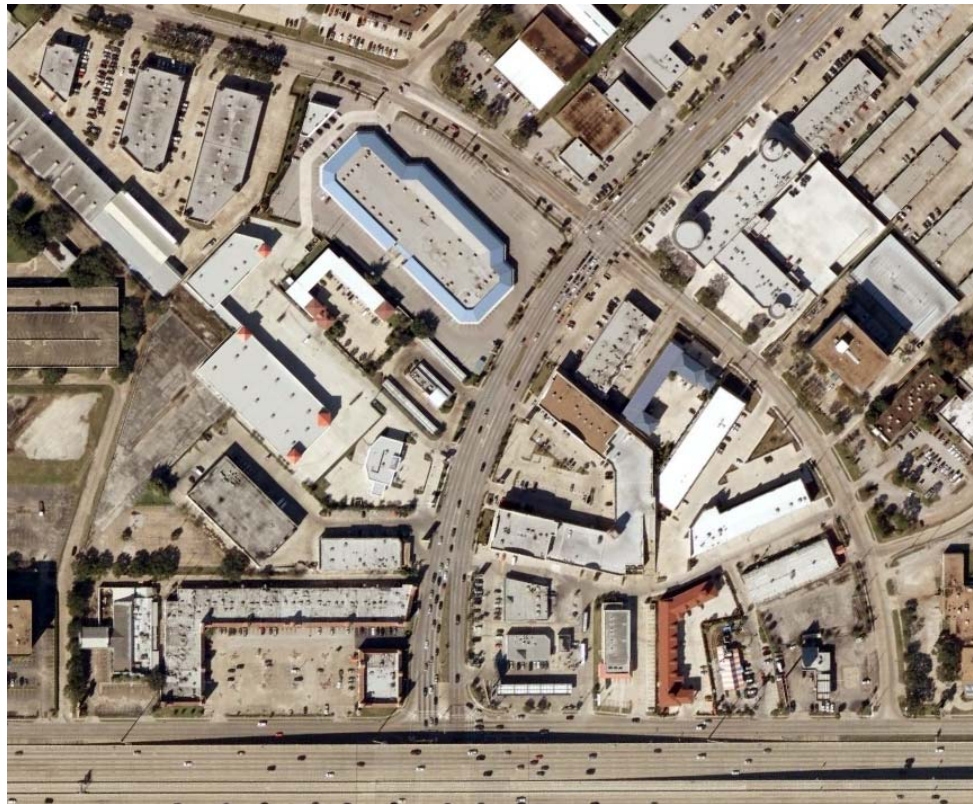
CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

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SECTION C / D



CIRCULATION STUDY

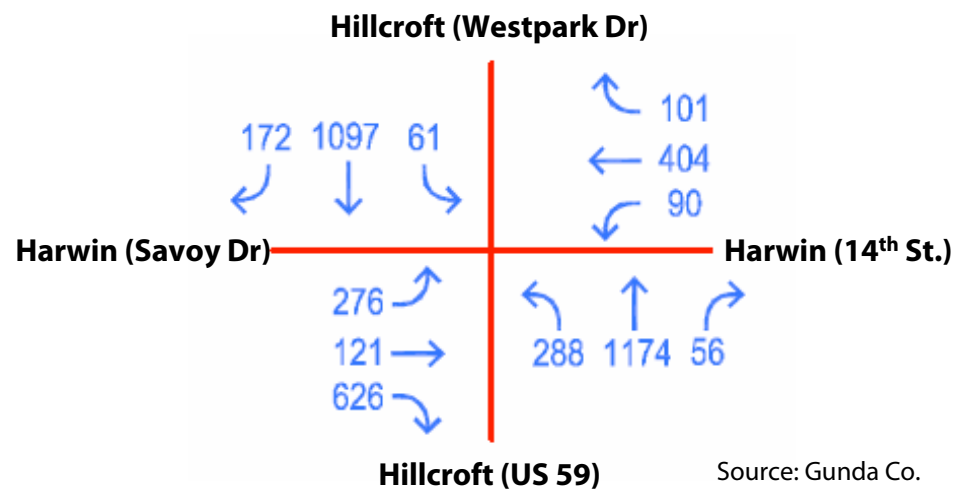
The Area adjacent to Hillcroft Avenue and Harwin Drive

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TRAFFIC OBSERVATION

Hillcroft Avenue @ Harwin Drive



CIRCULATION STUDY

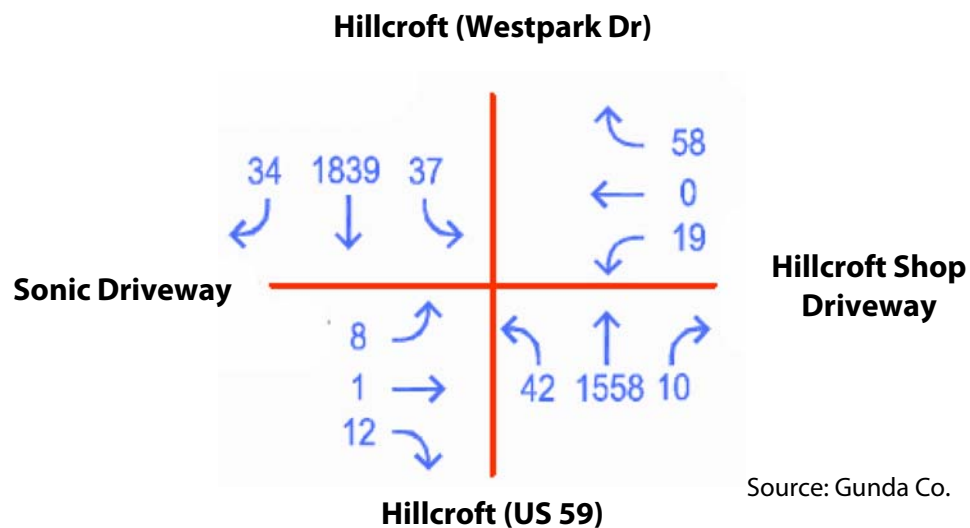
The Area adjacent to Hillcroft Avenue and Harwin Drive

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TRAFFIC OBSERVATION

Sonic / Hillcroft Shop Driveway @ Hillcroft Avenue



CIRCULATION STUDY

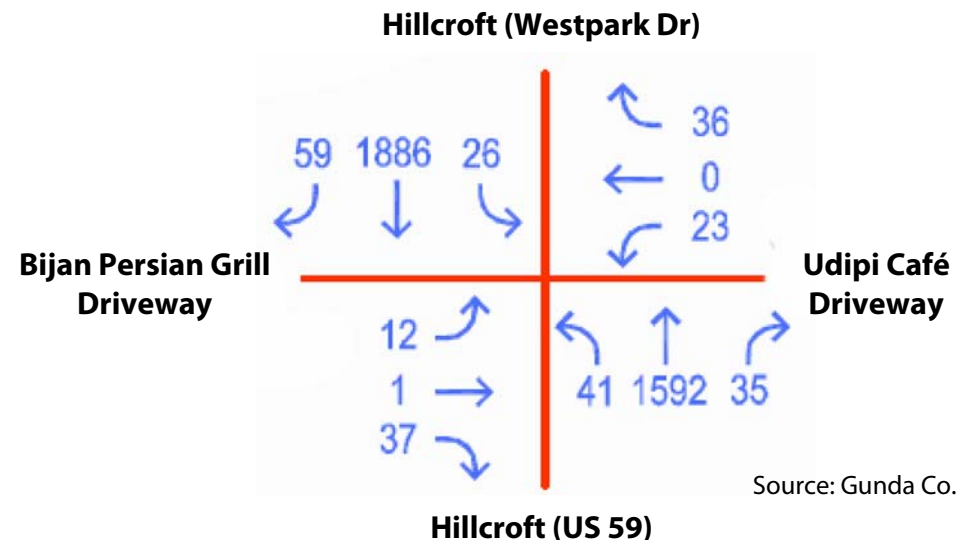
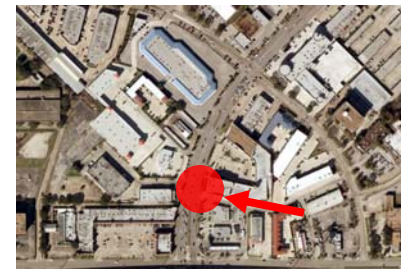
The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



TRAFFIC OBSERVATION

Bijan Persian Grill / Udipi Cafe Driveway @ Hillcroft Avenue



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



EXISTING CONDITION

Parking



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



EXISTING CONDITION

Internal Driveway



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

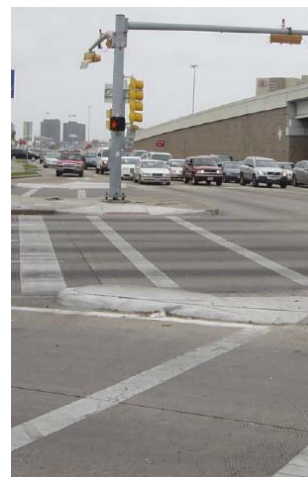
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PILOT STUDY

EXISTING CONDITION

Pedestrian Crossing



CIRCULATION STUDY

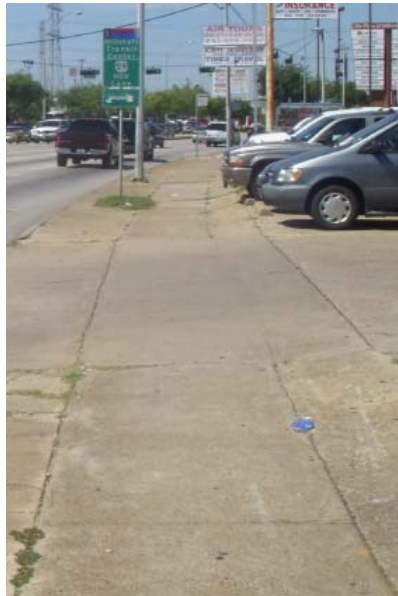
The Area adjacent to Hillcroft Avenue and Harwin Drive

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EXISTING CONDITION

Public Sidewalk



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

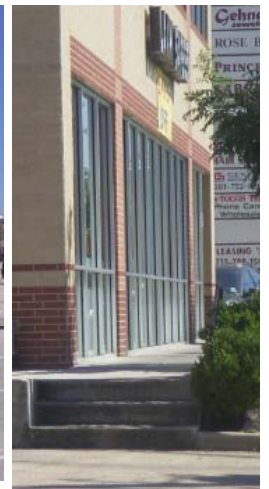
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PILOT STUDY

EXISTING CONDITION

Private Sidewalk



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

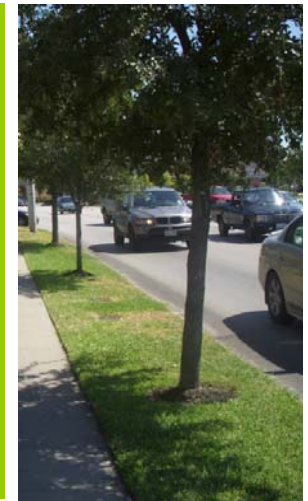
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PILOT STUDY

EXISTING CONDITION

Landscape



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



EXISTING CONDITION

Public Transit



CIRCULATION STUDY








The Area adjacent to Hillcroft Avenue and Harwin Drive

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EXISTING CONDITON

Land use

Parking	
Sidewalk	
Driveway	
Landscape	
Retail	
Commercial	
Hotel/Motel	



Planning & Development Department, City of Houston

CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group

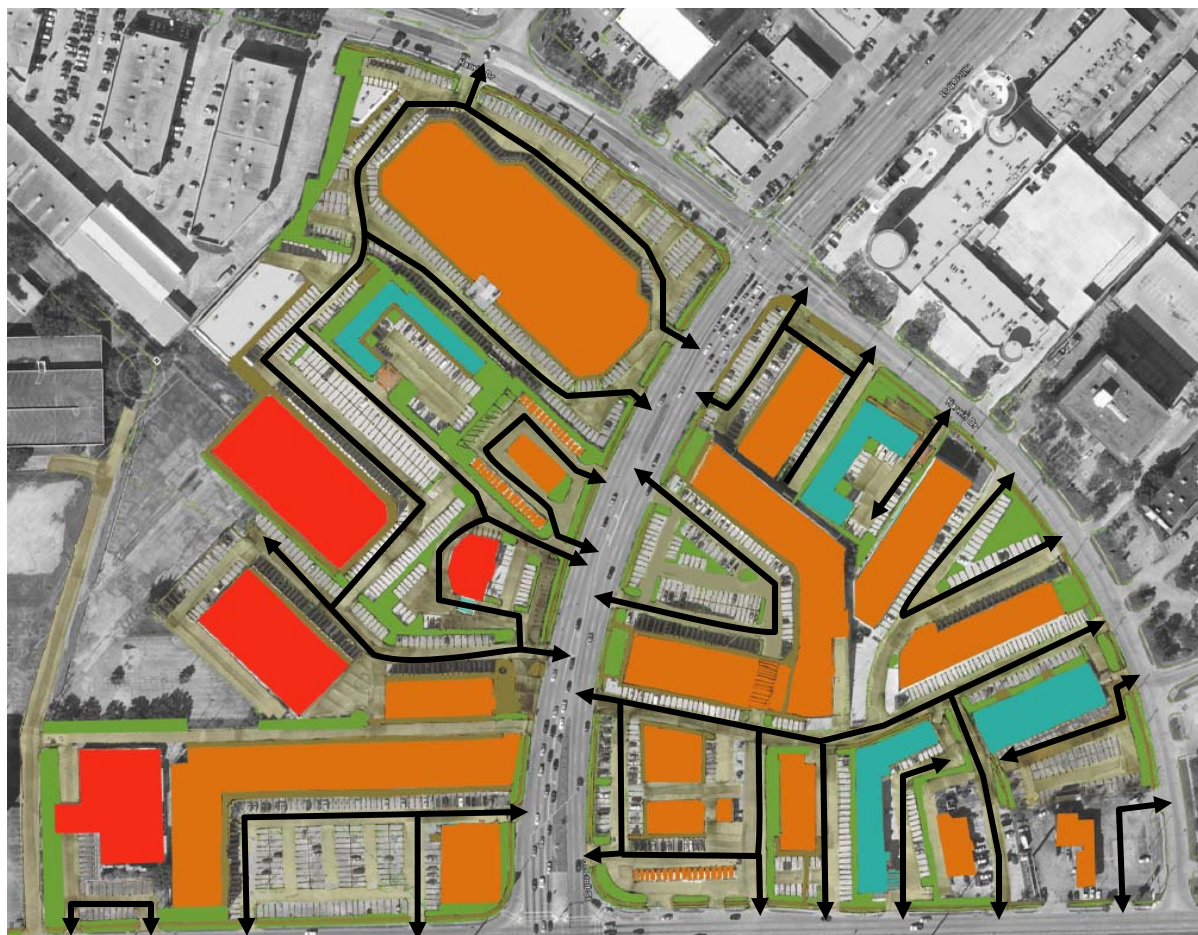


EXISTING CONDITON

Internal Vehicle Circulation

1. **Inefficient driveway access management**
2. **Lack of internal connectors**
 - Dead-end driveways
 - Separation between properties
 - Obstructions between driveways (ex. Garbage dumpster)

↔ Existing Internal driveways



Planning & Development Department, City of Houston

CIRCULATION STUDY

Transportation Group

The Area adjacent to Hillcroft Avenue and Harwin Drive

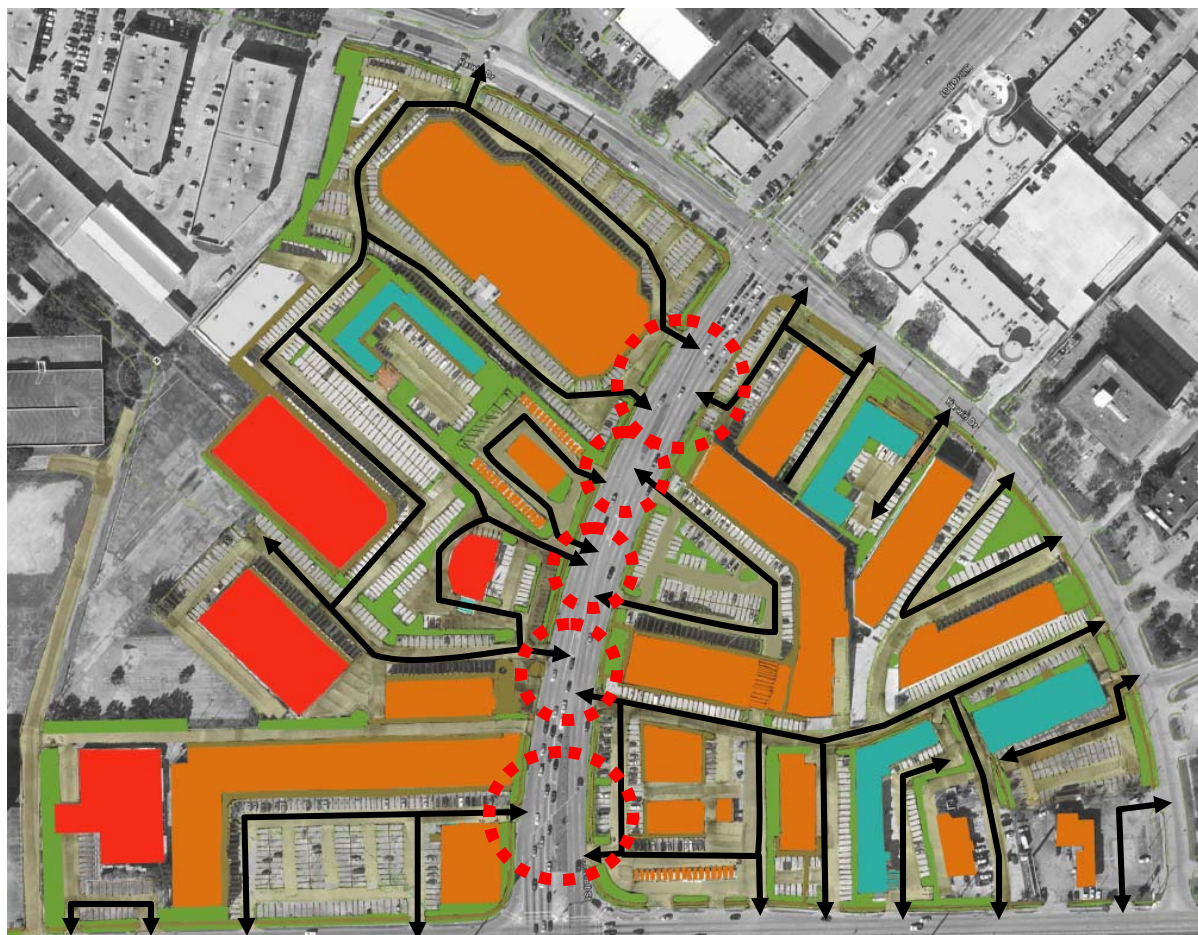


EXISTING CONDITION

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↔ Existing Internal driveways



Planning & Development Department, City of Houston

CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



EXISTING CONDITON

Pedestrian Circulation

1. **Lack of pedestrian connections between**
 - C and D sections
 - Public and private sidewalks
 - Adjacent complexes
2. **Lack of pedestrian environment**
 - Inconsistent landscapes
 - Anti-pedestrian parking design (ex. front parking)

 Existing sidewalk



Planning & Development Department, City of Houston

CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



VISION



Vision



PRIVATE STREET
CONNECTORS



PEDESTRIAN
CONNECTIONS

CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

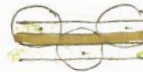
Transportation Group



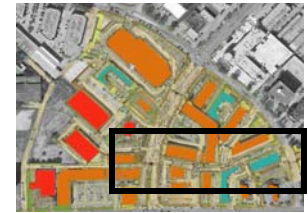
VISION



PRIVATE STREET
CONNECTORS



PEDESTRIAN
CONNECTIONS



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



VISION



**PRIVATE STREET
CONNECTORS**



**PEDESTRIAN
CONNECTIONS**



CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



VISION



PRIVATE STREET
CONNECTORS



PEDESTRIAN
CONNECTIONS



CIRCULATION STUDY

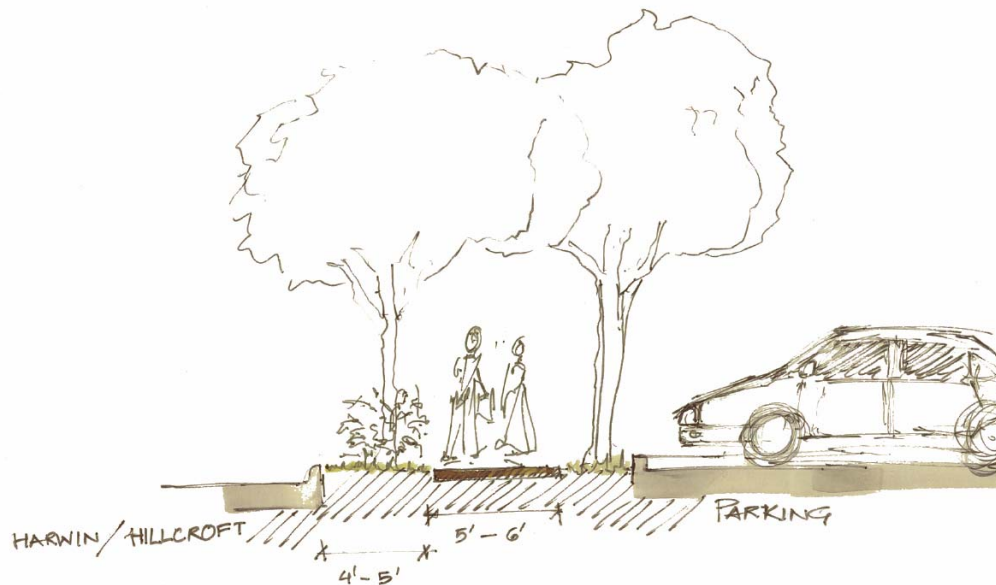
The Area adjacent to Hillcroft Avenue and Harwin Drive

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PILOT STUDY

STREET SECTION



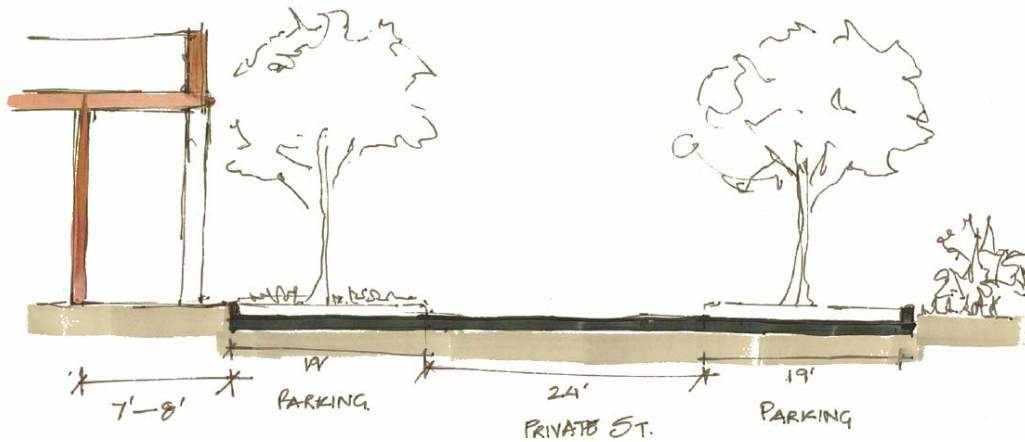
CIRCULATION STUDY

The Area adjacent to Hillcroft Avenue and Harwin Drive

Transportation Group



DRIVEWAY/PRIVATE STREET SECTION



CIRCULATION STUDY

Transportation Group

The Area adjacent to Hillcroft Avenue and Harwin Drive



DRIVEWAY/PRIVATE STREET SECTION

