

Improve Health, Save Lives, Inspire Hope



Neighbor engagement – collaboration timeline

6/19/19 Neighborhood Advisory Group

7/17/19 Second Neighborhood Advisory Group

8/7/19 Neighborhood Meeting

Smoking challenges

A



No Smoking
Use of tobacco or smoking devices is not permitted on this property including grounds, parking areas or in vehicles.

Prohibido fumar
El uso de tabaco o de dispositivos para fumar no está permitido en esta propiedad, incluyendo terrenos, áreas de estacionamiento y el interior de los vehículos.

B



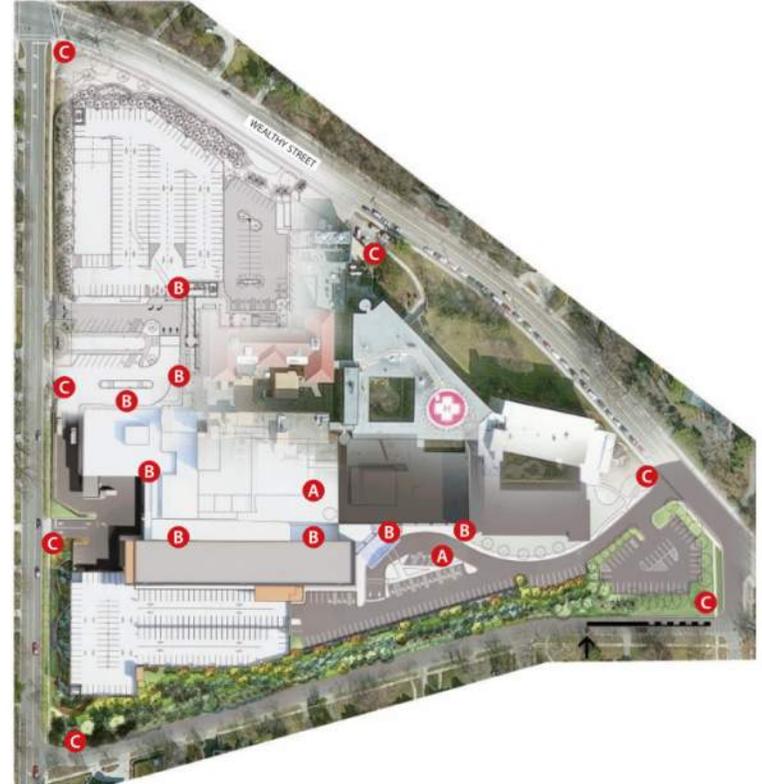
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C



Smoke-Free Campus



Meeting the needs of today and tomorrow

Issues to Solve

- Provide on-campus parking for patients, visitors, physicians and team members that is safe, convenient and accessible
- Reduce need for on-street parking in our neighborhoods
- Respect residential zoning setbacks & building height requirements
- Reduce noise and light pollution
- Provide additional landscaping buffer

Guiding Principles

- Enhance the experience through providing a convenient, safe and accessible parking strategy
- Affordable – reduce overall operational expenses through use of technology and innovative design
- Sustainable – build a flexible plan to accommodate long term parking demands
- Responsible – create a solution we would want in our own neighborhood

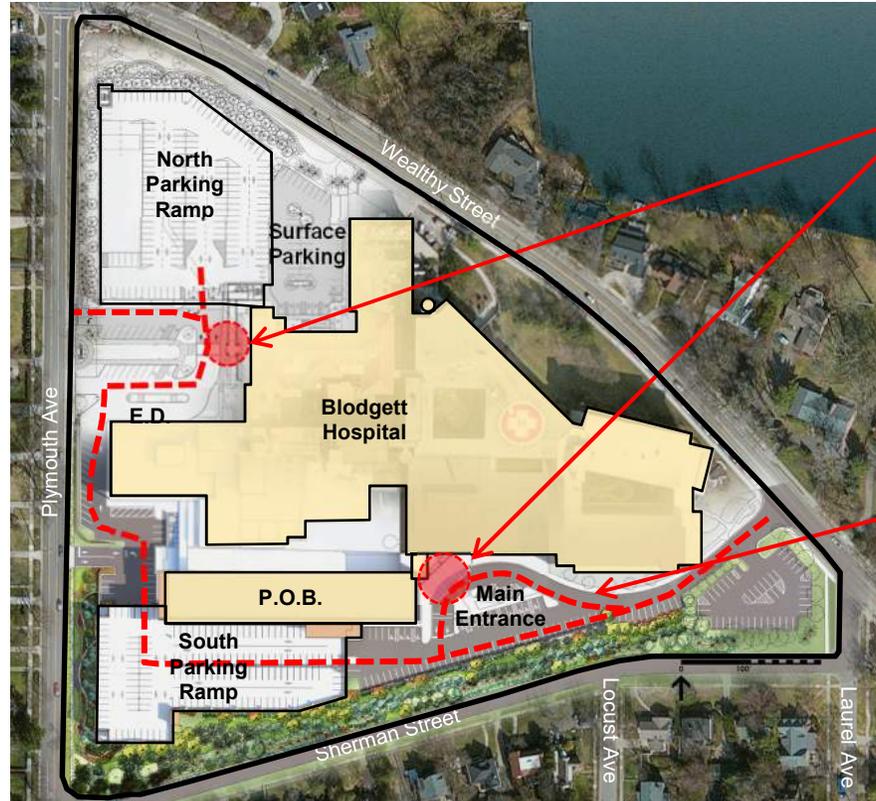
Wayfinding – Design principles for the proposed site

4 Parking in the optimal locations

- Parking balanced and adjacent to main entrances
- Parking levels aligned with POB
- Majority of parking ramps below grade

3 Enhanced landscaping

- Build upon our recognition as a 50 greenest hospital
- Utilize evergreens, dense landscaping and screening walls to enhance the campus
- Create continuity with Gaslight Village
 - Gas lamps
 - Signage
 - Landscaping



1 Improve wayfinding

- Create 2 easy patient / visitor entry points (north & south)
- Connect the POB to the hospital at the first floor
- Intuitive wayfinding that respects the lack of mobility of our patients
- Surface parking around entrance

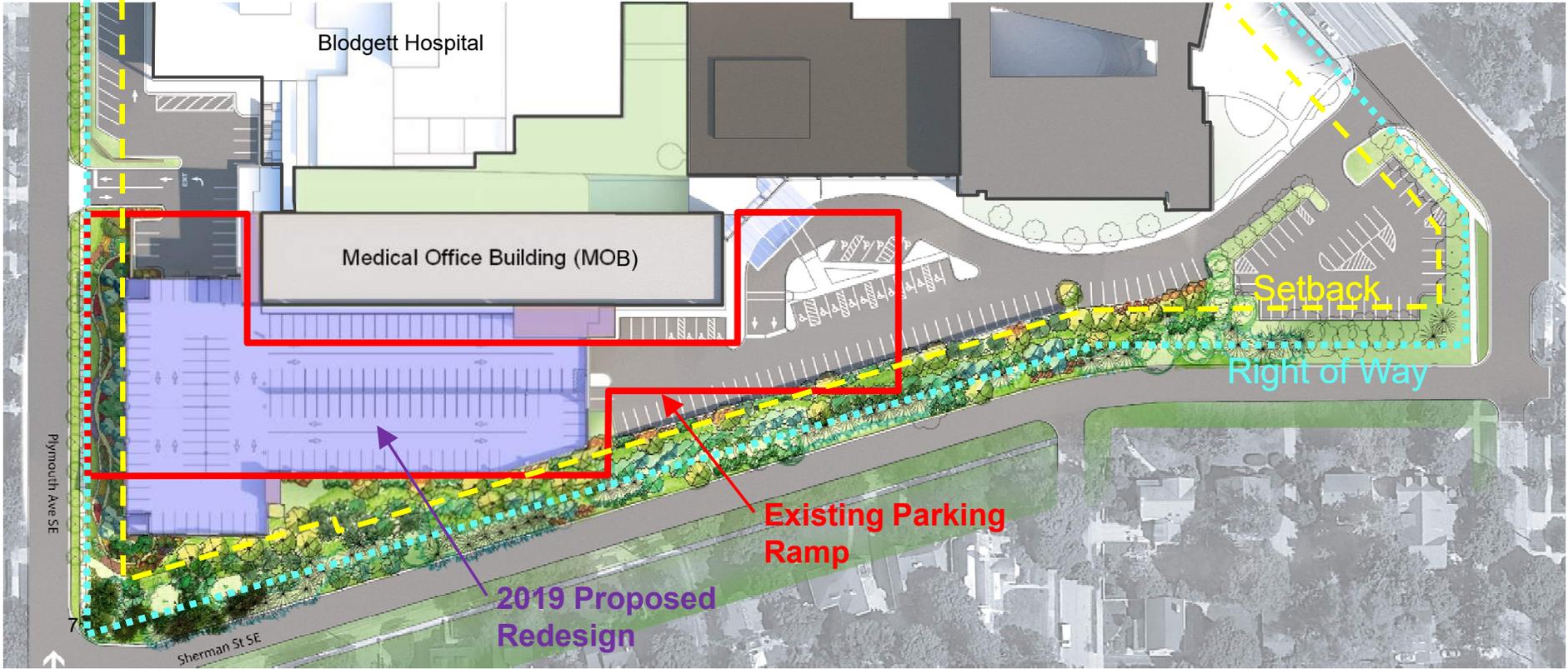
2 Create internal site circulation

- Reduce traffic volume on adjacent streets
- 2 lanes of drop-off at main entrance
- Eliminate Sherman Street curb cut

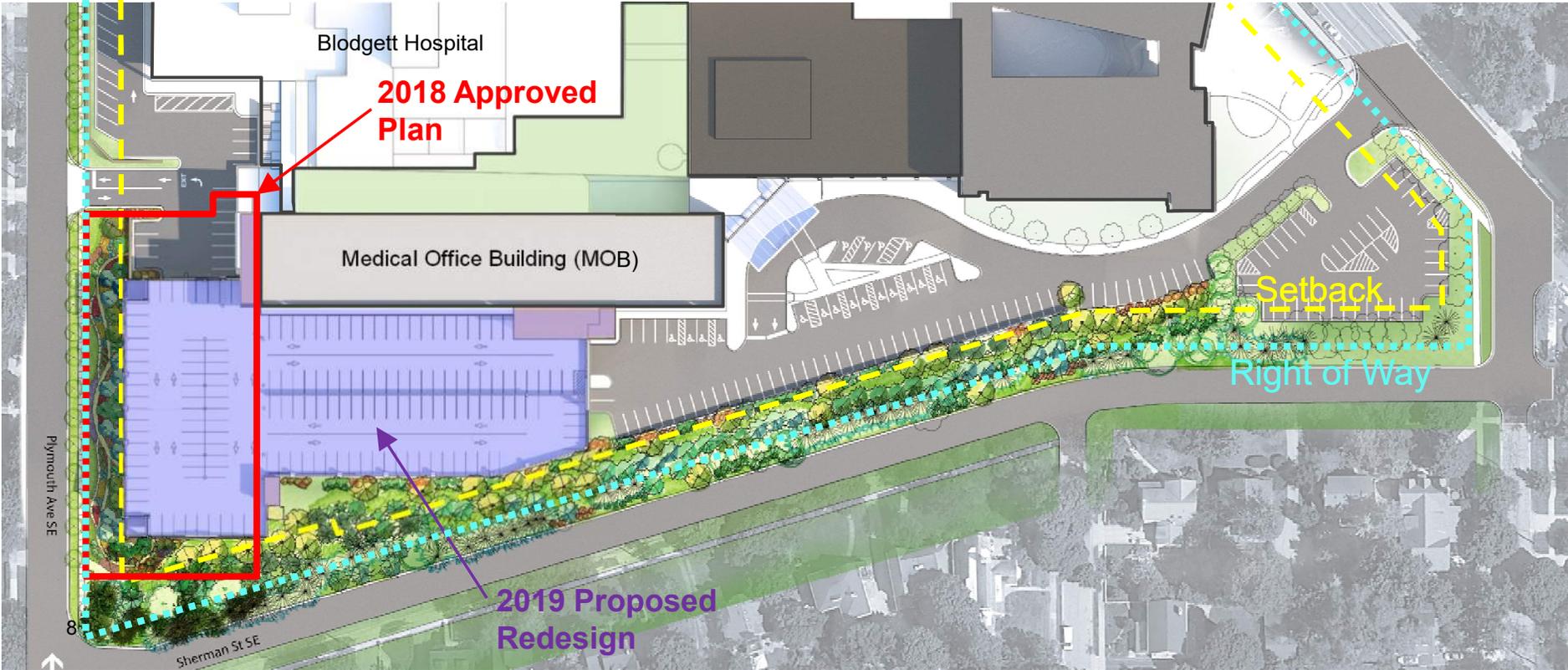
Design improvements

- **Eliminated the need for setback variance requests** – Parking ramp will meet all required East Grand Rapids residential zoning setback requirements
- **Moved the south ramp 30'-0" from right-of-way** – Allows for additional landscaping along Plymouth
- **Decreased the length of the parking ramp along Plymouth** – Allows for additional landscaping along Plymouth
- **Increased amount of landscaping** – Both Plymouth and Sherman will have increased layered landscaping and earth berming
- **Redesigned Ambulance Drop-off** – Designed to decrease amount of noise and traffic

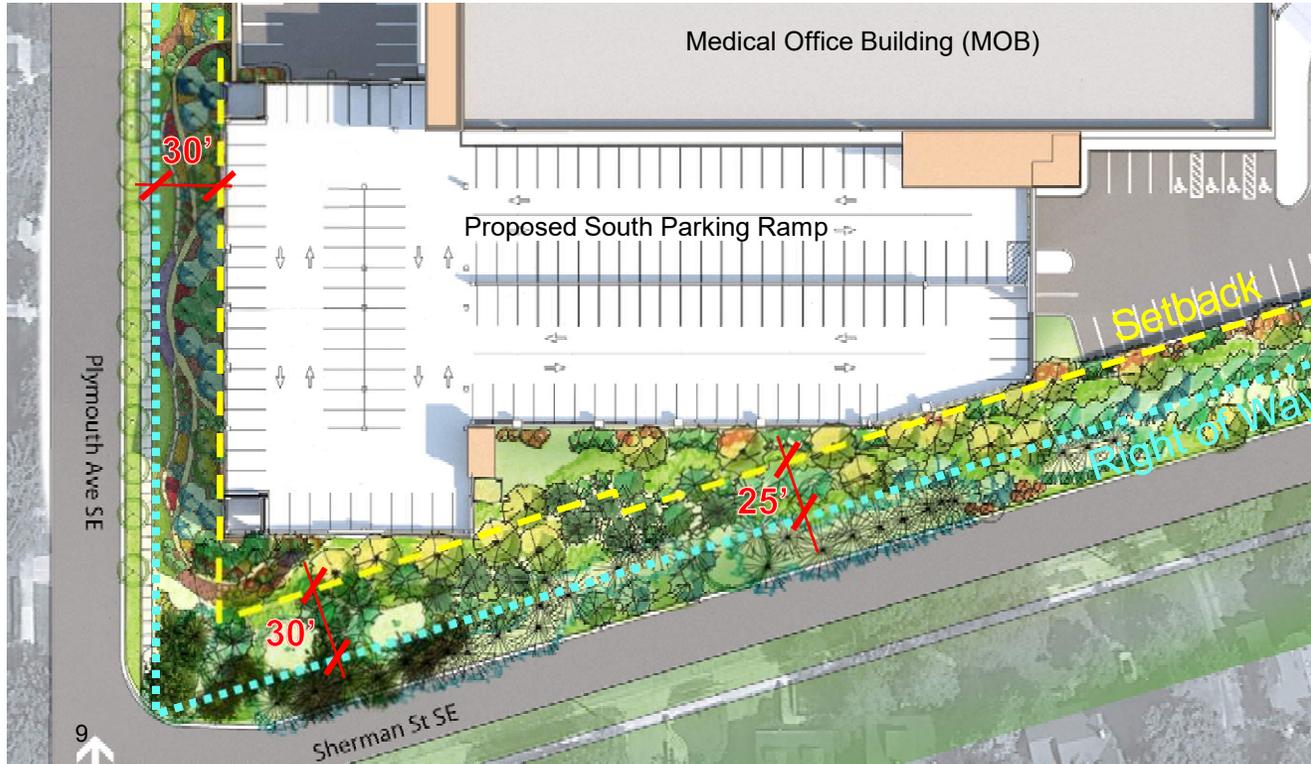
South ramp comparison



South ramp comparison



South ramp – 2019 redesign



- The maximum above-ground height will be the same as the 2018 approved south parking structure
- Its placement will not require a setback variance and it will meet all residential setback requirements
- The new design will eliminate the need for the setback variance along Plymouth Avenue received in 2008 and the setback variances along Sherman Street received in 2008 and 2018

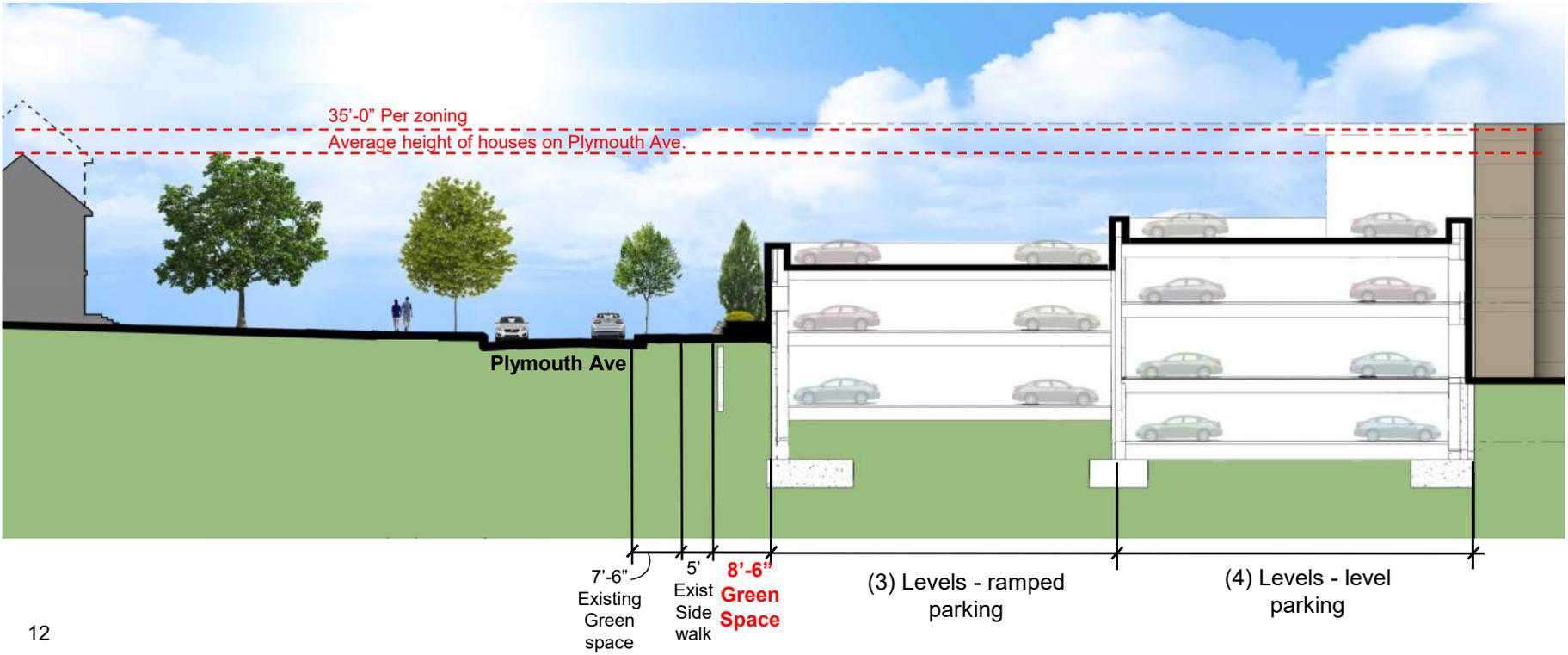
South ramp - Plymouth landscaping comparison



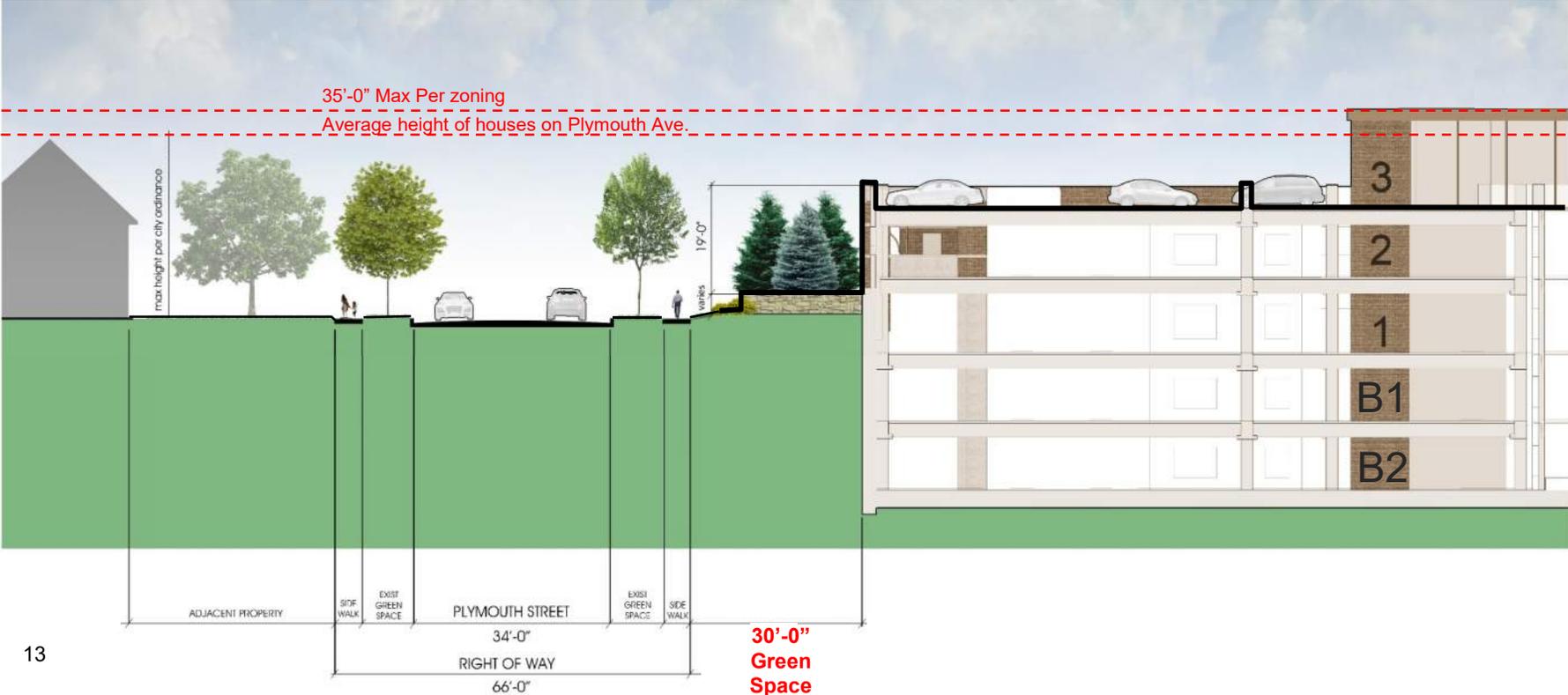
South ramp – Increased pedestrian safety



South ramp – 2018 section at Plymouth Ave

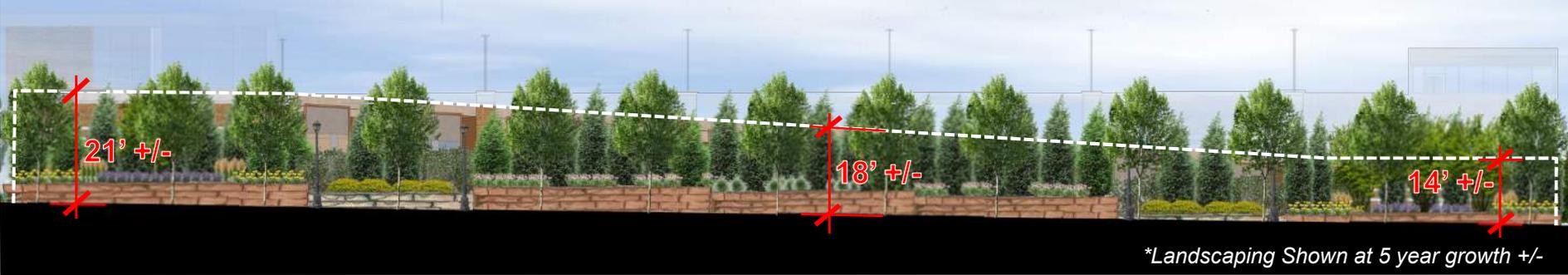


South ramp – 2019 section at Plymouth Ave



South ramp – Plymouth elevation comparison

2018 Approved Plan



2019 Redesign



South ramp – Former parking ramp looking south



South ramp – 2018 ramp looking south



South ramp – 2019 ramp looking south



South ramp – Existing Plymouth Ave looking north



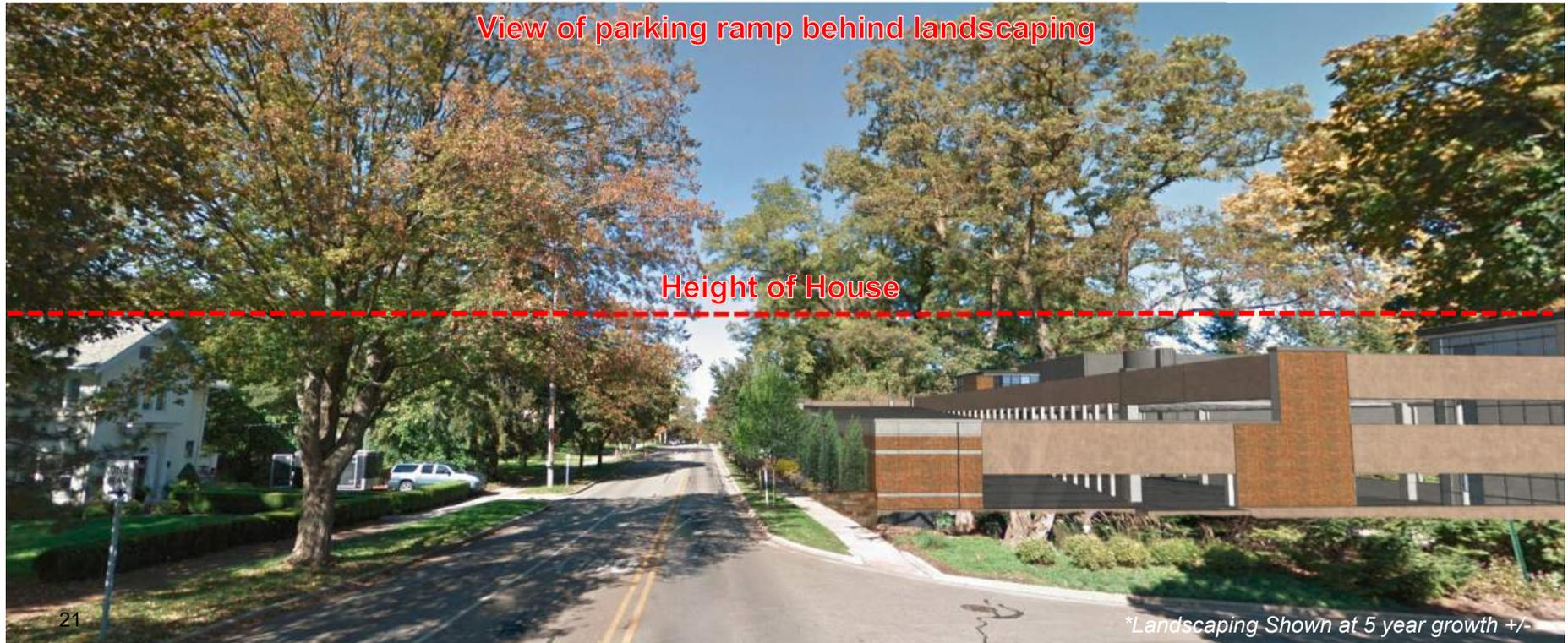
South ramp – 2018 looking north



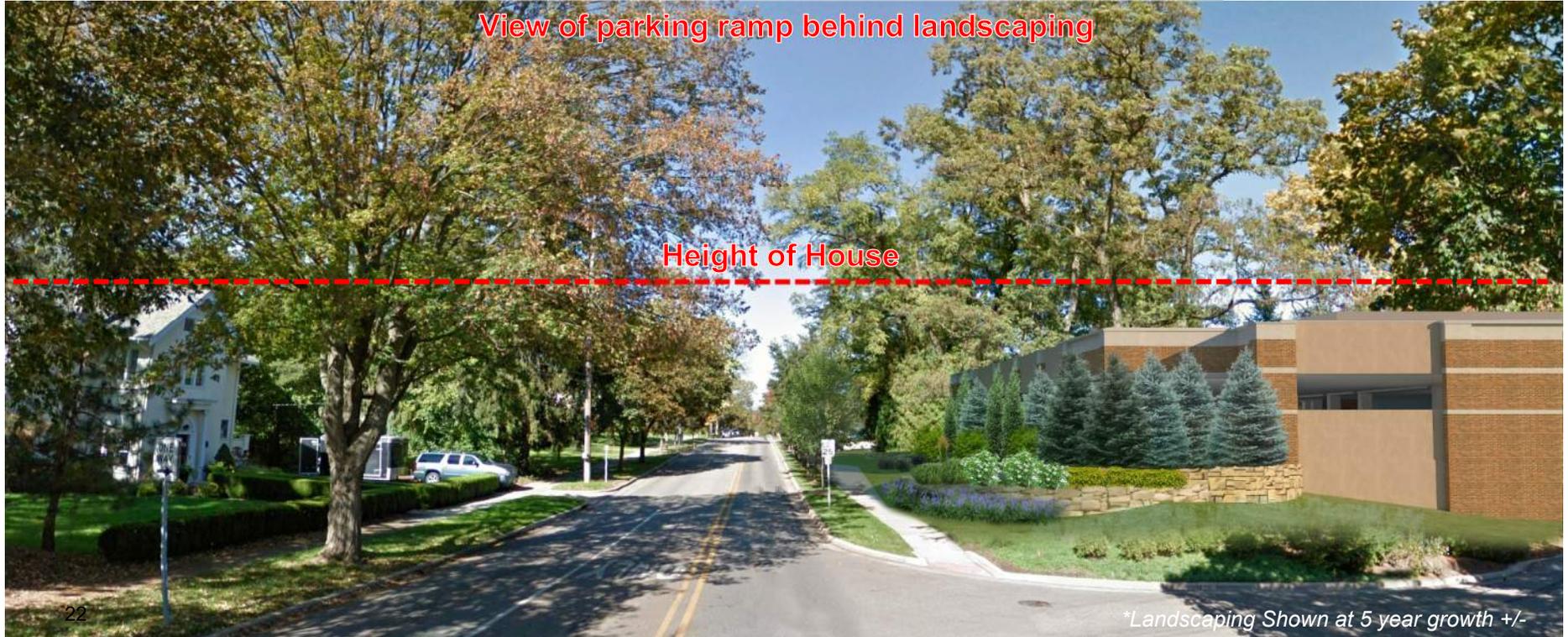
South ramp – 2019 looking north



South ramp – 2018 looking north



South ramp – 2019 looking north



South ramp – 2019 looking north



South ramp – 2018 Sherman St looking north



South Ramp – 2019 Sherman St looking north

View of parking ramp behind landscaping



South Ramp – 2019 Sherman St looking north

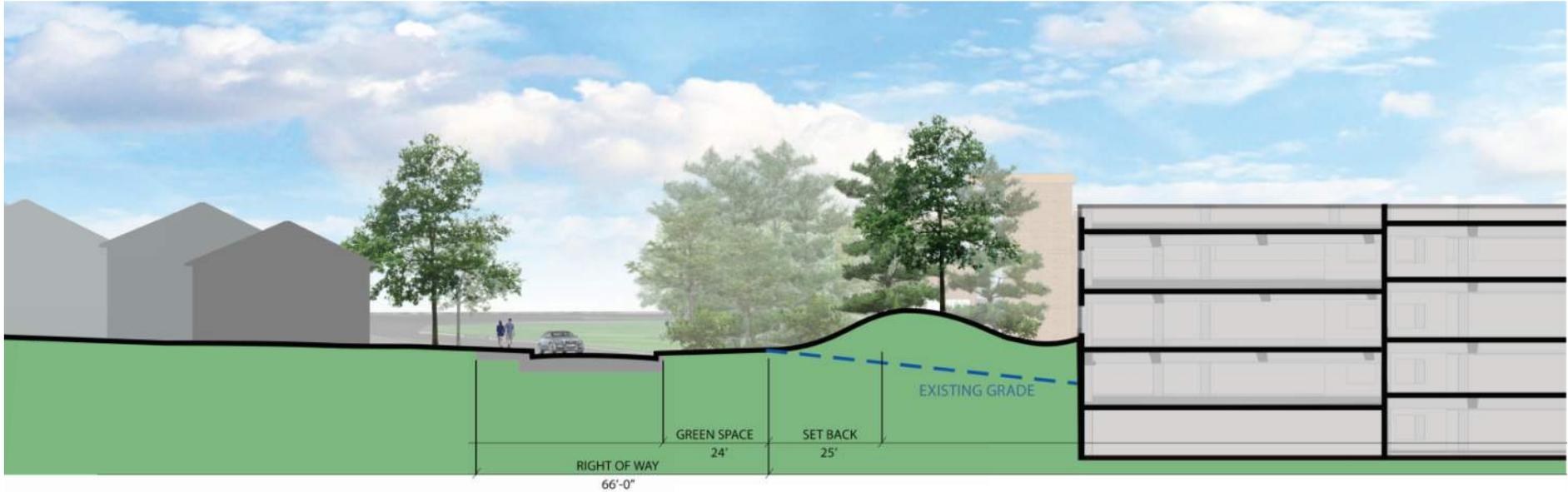


South Ramp – 2019 Sherman St looking north



**Landscaping Shown at 5 year growth +/-*

South Ramp – 2019 Sherman St site section



South Ramp – 2019 Sherman St looking west

View of parking ramp behind landscaping



South Ramp – 2019 Sherman St looking west



South Ramp – 2019 Sherman St looking west



South Ramp – 2019 Sherman St looking west

View of parking ramp behind landscaping



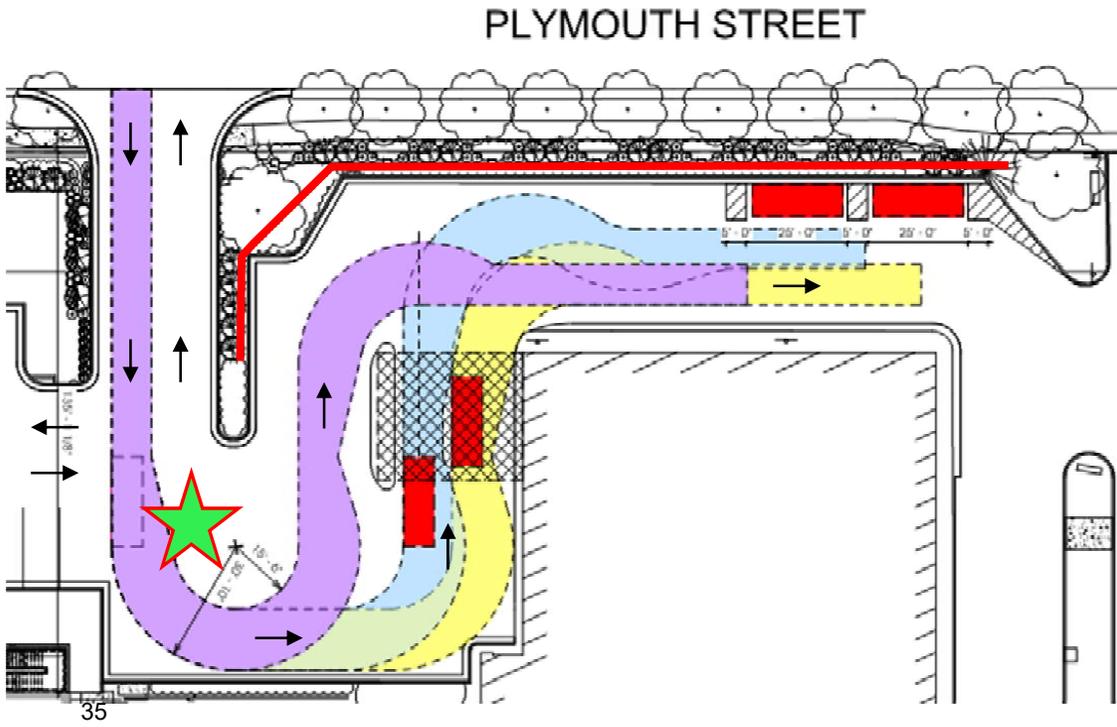
South Ramp – 2019 Sherman St looking west



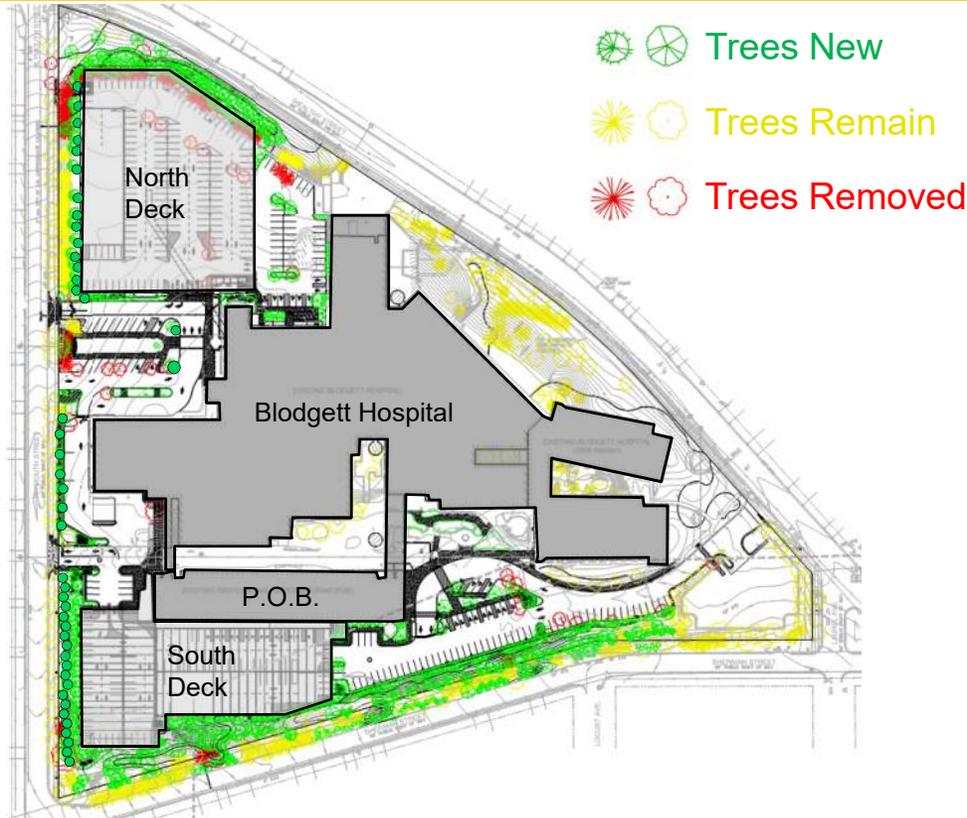
South Ramp – 2019 Sherman St looking west



South Ramp – 2019 ambulance drop off



Variance for building lot coverage



Building lot coverage:

2018 Approved = 47.7%

2019 Redesign = 48.9%

Impervious surface area:

2018 Approved = 75.8%

2019 Redesign = 72.2%

Green space:

2018 Approved = 24.2%

2019 Redesign = 27.8%



Parking management and shuttle elimination

- Reporting and controls to distribute the traffic volume and minimize congestion
 - Track arrival and departures of visitor and staff
 - Lane volume tracking
 - Access control functions
- Use of technology to speed up the entry by reducing decision points
 - Real time space availability signage
 - Pre-booking allows us to designate parking areas
 - Ticketless solutions

Spaces Available	
Level 5	14
Level 4	37
Level 3	51
Level 2	13
Level 1	FULL



Patient messaging example

Dear @FNAME@,

Thank you for planning to join us at the @EXTERNALVTNAME@! We hope you find it to be useful as you plan for your upcoming surgery and recovery.

Date: @SVCDATE@ at @APPTTIMENOTIMEZONE@
Location: Spectrum Health - Blodgett Hospital 1840 Wealthy SE
Room: Orthopaedic Education Room - 3E71

When you come for your class, please note that construction has begun to improve parking and wayfinding at Spectrum Health Blodgett Hospital. We appreciate your patience with this project and want you to know that parking availability has been reduced and the walking distance has been increased. Please use the following options:

- Complimentary valet parking - This can be found at the Plymouth (Emergency) Entrance. Let the valet know that you are here for the class and then the valet will be free. **There is no valet on Saturday so please follow the self park instructions below.**
- If you wish to park yourself, use the parking ramp found at the Plymouth (Emergency) Entrance. Bring your ticket with you to class for validation.

Enter the hospital through the door closest to the parking ramp with the brick archway. Follow the yellow diamonds to the Center elevator. Take the Center elevator to the 3rd floor and the classroom is across the hallway on the 3rd floor - 3E-71.

If you need wheelchair assistance, there will be wheelchairs available by the entrance.

Bring: Your patient handbook and your helper if available.

Contact: To reschedule this appointment please call 616-774-7950, or toll free 800-344-2784, option 1.

Sincerely,

@FNAME@:

Traffic Impact Study

- a) Steps in a traffic study
 1. Define scope
 2. Conduct traffic counts
 3. Existing conditions analysis
 4. Horizon year analysis (no development)
 5. Projected conditions analysis (with development)
 6. Recommendations
- b) Summary of results
- c) Parking reallocation (50-50 scenario)
- d) References

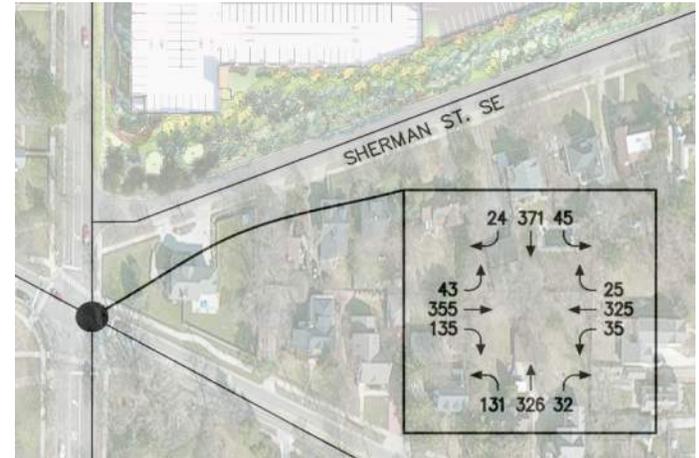
Define scope

- Select study area intersections
 - Site driveways + adjacent signalized intersections
- Define horizon year(s) - buildout phases
 - Blodgett = 2021
- Define special circumstances
 - No new traffic generator
 - Existing vs new conditions



Conduct traffic counts

- Peak hour turning movement counts (7-9am and 2-7pm)
 - Completed at each study area intersection
 - Left, Thru, Right – 15 min. increments
 - Typically Tuesday-Thursday
 - Thursdays typically show the highest counts
 - Blodgett counts completed Thursday, June 1, 2017



Conduct traffic counts

- Avoid special events, construction and adverse weather
 - Current construction at the Blodgett campus would impact collecting new counts
 - There have been NO new large traffic generators in the immediate vicinity:
 - Big box stores, shopping center, large manufacturing/light Industrial, etc.

Existing conditions analysis

- Intersection operations
 - Based on the Federal Highway Capacity Manual
 - Level of Service (A-F)
 - Defined by average delays per vehicle
 - LOS F does NOT mean fail
 - LOS D is considered acceptable in a urban and suburban environment
 - Vehicle Queueing

HCM LOS Criteria for **Signalized** Intersections

Level of Service (LOS)	Average Stopped Vehicle Delay (SEC)
A	≤ 10
B	>10 and ≤ 20
C	>20 and ≤ 35
D	>35 and ≤ 55
E	>55 and ≤ 80
F	>80

Horizon year analysis

- Based on build-out in 2021
- Growth factor
 - 1.1% recommended per Federal Highway Administration (1% industry standard used by State of Michigan)
- Intersection operations
 - Level of Service (A-F) / Delays
 - Queueing

Projected conditions analysis

- Trip Generation: **no new catalyst for traffic**
 - Not applicable for this project
- Trip Distribution/Traffic Assignment: **improved distribution**
 - Existing traffic patterns
 - Engineering experience
 - Patient messaging
 - Staff parking

Projected conditions analysis

- Combine new traffic with Horizon Year traffic
- Intersection operations
 - Level of Service (A-F) / Delays
 - Queueing

Recommendations

- Signalized intersections: Typical options
 - Timing adjustments – recommended
- Optional but not needed at this time
 - Phasing adjustments
 - Vehicle detection
 - Restrict movements
 - Additional / auxiliary lanes

SIMPLE



COMPLEX

Summary of results

Movement	Existing		Projected		Improved	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
AM Peak Hour						
Lake/Plymouth						
Plymouth NB Th/Rt	D	50.5	F	82.7	D	36
PM Peak Hour						
Wealthy/Plymouth						
Plymouth SB Th/Rt	B	18.4	C	22.4	B	17
Wealthy EB Left	B	12.4	B	12.4	C	20
Lake/Plymouth						
Plymouth SB Th/Rt	E	56.6	E	77.9	D	43.5
Plymouth NB Th/Rt	D	45.4	D	53.2	D	36.2
Plymouth NB Left	E	80	F	129.3	D	49.6
Lake WB Th/Rt	C	25.8	C	27.6	D	42.7

Parking reallocation (50-50 scenario) – Wealthy/Plymouth

AM Peak Hour		Eastbound		Westbound		Northbound		Southbound	
		LT	TH/RT	LT	TH/RT	LT	TH/RT	LT	TH/RT
Existing	LOS	B	B	B	B	B	B	B	B
	Delay (Sec.)	12.2	12.2	11.6	13.6	14.3	17.7	16.1	14.4
Proposed Improved	LOS	B	B	B	B	B	B	B	B
	Delay (Sec.)	12.4	10.7	12.1	14	16.8	19.3	17.2	16.7
50-50 Scenario Improved	LOS	B	A	B	B	B	B	B	B
	Delay (Sec.)	12.3	8	12	13.4	16.8	19.5	17.1	17.4

PM Peak Hour		Eastbound		Westbound		Northbound		Southbound	
		LT	TH/RT	LT	TH/RT	LT	TH/RT	LT	TH/RT
Existing	LOS	B	B	B	B	B	B	B	B
	Delay (Sec.)	15.5	13.9	13.4	15.4	15.8	17.9	15.3	19.9
Proposed Improved	LOS	C	B	B	B	B	B	B	B
	Delay (Sec.)	20	17.4	16.7	19.5	14	15.2	12.6	17
50-50 Scenario Improved	LOS	B	B	B	B	B	B	B	B
	Delay (Sec.)	19.4	17	16.5	18.3	14.6	15.6	12.8	17.2

Parking reallocation (50-50 scenario) Lake/Plymouth

AM Peak Hour		Eastbound		Westbound		Northbound		Southbound	
		LT	TH/RT	LT	TH/RT	LT	TH/RT	LT	TH/RT
Existing	LOS	B	B	B	C	C	D	B	C
	Delay (Sec.)	15.4	19.3	16.3	20.5	27.2	50.5	16.5	30
Proposed Improved	LOS	C	C	C	C	B	D	B	C
	Delay (Sec.)	26.6	29.8	25.4	34.8	17	36	11.4	23.4
50-50 Scenario Improved	LOS	C	C	C	D	B	D	B	C
	Delay (Sec.)	27.6	29.8	25.4	35.3	17.3	37.9	12	23.6

PM Peak Hour		Eastbound		Westbound		Northbound		Southbound	
		LT	TH/RT	LT	TH/RT	LT	TH/RT	LT	TH/RT
Existing	LOS	B	C	B	C	E	D	C	E
	Delay (Sec.)	17	25.8	18.9	20.3	80	45.4	23.4	56.6
Proposed Improved	LOS	C	D	C	C	D	D	B	D
	Delay (Sec.)	23.8	42.7	34.9	27.8	49.6	36.2	18.1	43.5
50-50 Scenario Improved	LOS	C	D	D	C	D	C	B	D
	Delay (Sec.)	25	46.2	39.4	29	48.8	34.8	17.4	42.9

References

- ITE “Transportation Impact Analyses for Site Development”
- Transportation Research Board “Highway Capacity Manual”
- ITE “Trip Generation”
- ITE “Manual of Transportation Studies”
- SEMCOG “Seasonal adjustment factors”
- FHWA “Forecasts of Vehicle Miles Traveled (VMT): Spring 2019”
- ITE “Traffic Engineering Handbook”
- Michigan Manual on Traffic Control Devices (MMUTCD)

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