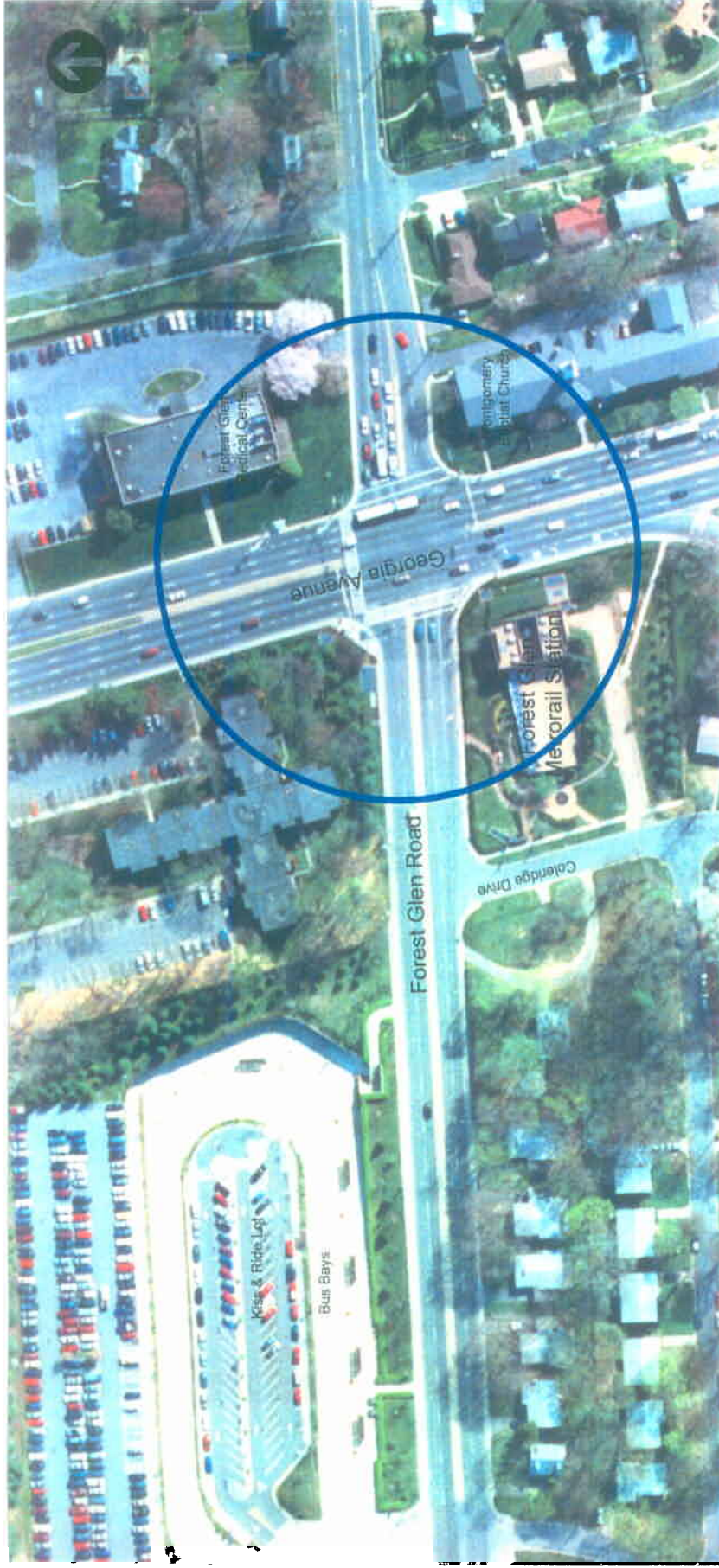


Forest Glen Station Access Assessment



This study has been prepared to demonstrate how the transit concepts developed may be employed for this corridor. These concepts do not represent any final decision on a transportation solution and are subject to further refinement. These concepts may be modified and join other transportation alternatives in the formal process of planning, environmental assessment and agency coordination, prior to any decision regarding implementation of a specific plan.



Department of Planning and Information Technology
Office of Planning
May 2005

Forest Glen Station Access Assessment

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Forest Glen Station Access Assessment

2.0 Existing Conditions

2.1 Station and Facilities

The Forest Glen Metrorail Station is an underground station on the Red Line located just outside the I-495 Capital Beltway off the Georgia Avenue-Forest Glen intersection. The station platform is located approximately 200 feet underground with vertical transportation provided via 6 high-speed elevators connecting the mezzanine to the platform. The station facilities located on the north side of Forest Glen Road include: bus bays and bus loop, a Kiss & Ride lot, and a Park & Ride lot with vehicular access from Forest Glen Road. The station entrance connects the bus bays, Kiss & Ride and Park & Ride lots to the station mezzanine on the south side of Forest Glen Road via a pedestrian passageway tunnel under Forest Glen Road.

2.2 Roadways

Georgia Avenue is typically a 6-lane divided highway, however at the Forest Glen Road intersection it has 3 thru lanes in each direction and 1 thru/right turn lane. Forest Glen Road is typically a 2-lane undivided roadway, however at the intersection the roadway expands to: 5 lanes in the western leg of the intersection (2 thru lanes westbound, 1 left turn lane heading north on Georgia Avenue, 1 thru lane eastbound and 1 thru/right turn lane southbound on Georgia Avenue; and 5 lanes in the eastern leg of the intersection (2 left turn lanes heading south on Georgia Avenue, 1 thru/ right turn lane westbound on Forest Glen Road or north on Georgia Avenue and 2 lanes transitioning to 1 lane westbound on Forest Glen Road. (Refer to Sheet 3 - Intersection Plan).

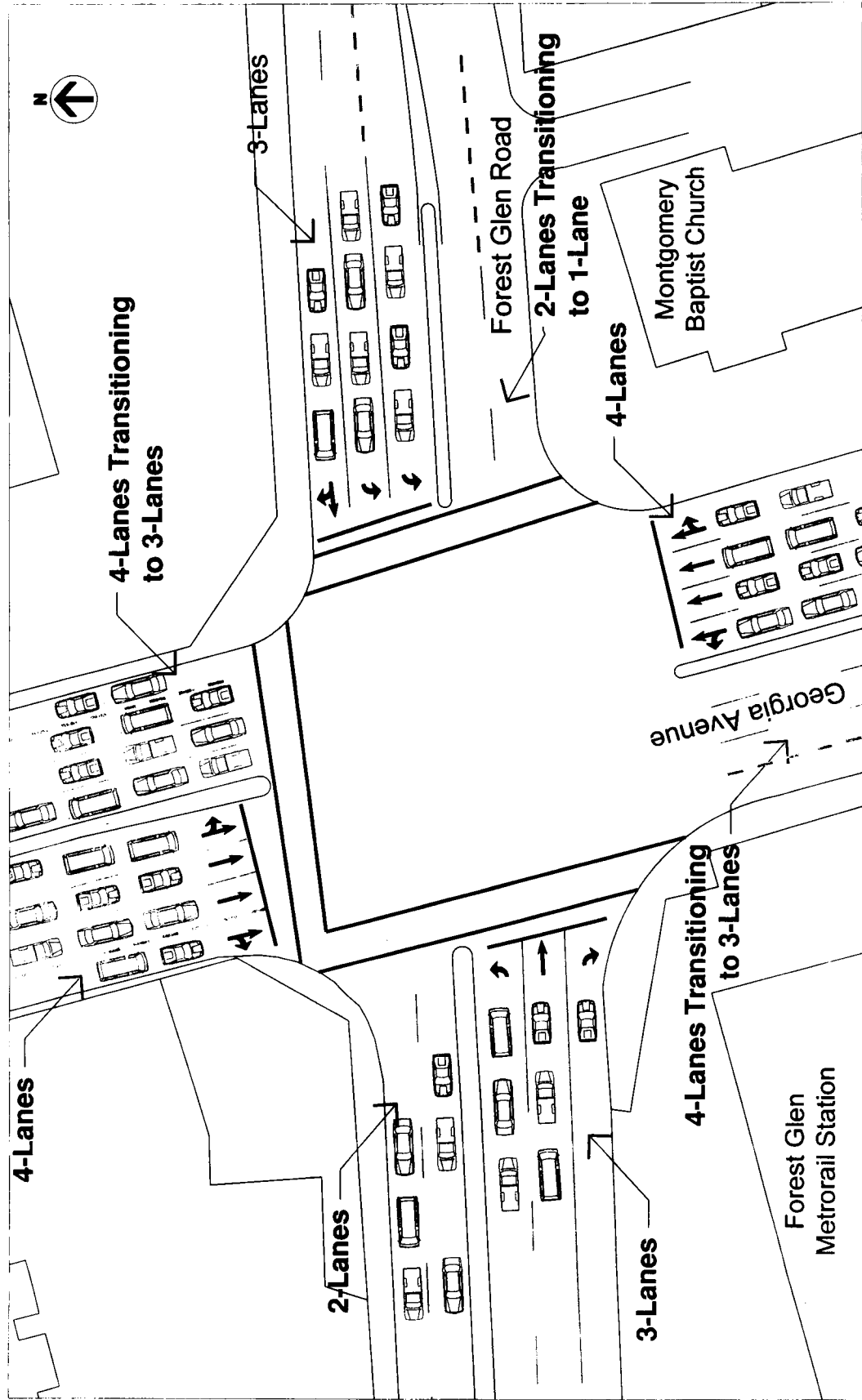


Existing Pedestrian Tunnel Looking @ Station Entrance Mezzanine



Forest Glen Road Approaching Georgia Avenue from the west

Forest Glen Station Access Assessment



Intersection Plan



Forest Glen Station Access Assessment

2.3 Development Around Station

The community around the Forest Glen Metro Station consists of established single-family and multi-family neighborhoods. The Forest Glen Station, located adjacent to the Park & Ride lot, is a new development consisting primarily of townhomes with a small number of single-family homes. Americana Finnmark condominiums, Woodside Crossing, Belvedere, and Forest Glen apartments are located along Georgia Avenue just north of the station. The Forest Estates neighborhood consisting of single-family homes is located off Forest Glen Road east of Georgia Avenue. Development around the station also includes the Montgomery Baptist Church located at the southeast corner of Georgia Avenue and Forest Glen Road, and the Forest Glen Medical Center located on the northeast corner of Georgia Avenue and Forest Glen Road. Holy Cross Hospital is on Forest Glen Road within a 10-minute walk of the station. The community of Forest Glen is located west of the station. The Capital Beltway (I-495) is located just south of the Forest Glen Station.

2.4 Pedestrian Access to the Station

Pedestrians accessing the station from the west do not have to cross Georgia Avenue and can enter the pedestrian tunnel from either side of Forest Glen Road. Pedestrians accessing the station from the northwest side of Georgia Avenue typically cross Forest Glen Road to the pedestrian tunnel on the south side of Forest Glen Road rather than backtrack along Forest Glen Road to the pedestrian tunnel entrance on the north side of Forest Glen Road. Pedestrians accessing the station from the east must cross Georgia Avenue and Forest Glen Road. Pedestrians looking for the most direct route to the station often j-walk across Forest Glen Roadwest of Georgia Avenue rather than use the crosswalk. This occurs even when the traffic signal at Forest Glen Road turns green resulting in pedestrians darting between moving vehicles creating an unsafe condition. Currently, there is limited access from the south given the significant barrier posed by I-495.

However, construction is underway for a grade separated trail from Locust Grove Road inside I-495 to the Forest Glen Metrorail Station. This will significantly improve access to the station for the community of Montgomery Hills Park, as well as to the shops and restaurants located on Georgia Avenue inside the Beltway.



Georgia Avenue Looking South



Stairway Entrance to Existing Pedestrian Tunnel on the South Side of Forest Glen Road

Forest Glen Station Access Assessment

2.5 Traffic Data

Traffic Volumes Documented by Maryland State Highway

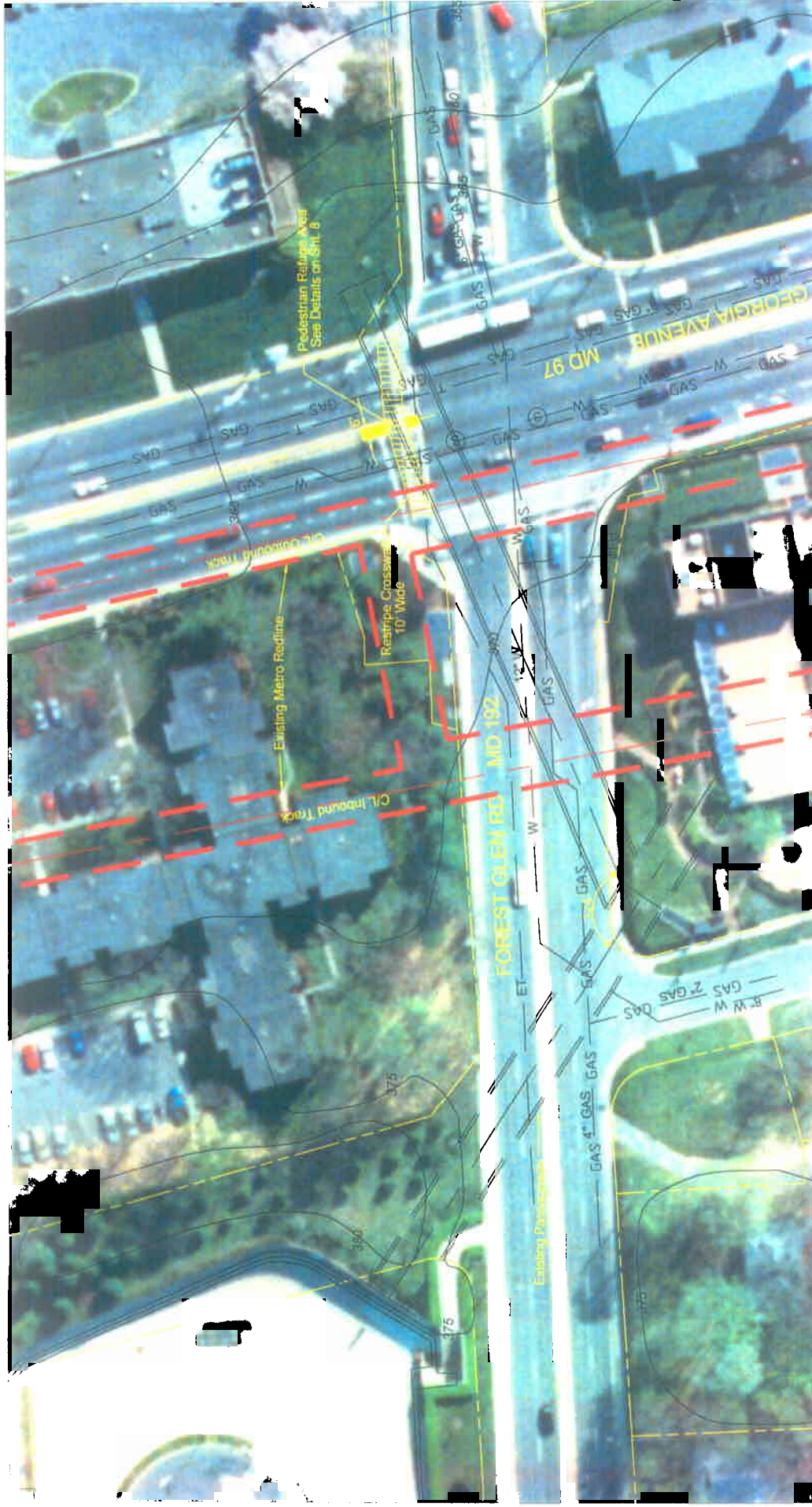
Administration (SHA) - SHA compiled traffic volume data for the Georgia Avenue-Forest Glen Road intersection on August 28, 2003. A total of 64,446 vehicles passed through this intersection between 7 a.m. and 7 p.m.. The a.m. peak hour was from 8:00 to 9:00 a.m. with 4,363 vehicles traveling south on Georgia Avenue (4,225 vehicles traveling through, 136 vehicles turning right and 2 vehicles turning left illegally). There were also 787 vehicles heading westbound on Forest Glen Road (407 turning left turn onto Georgia Avenue southbound, 336 vehicles traveling through and 44 vehicles turning right).

Accident Data Documented by SHA - There were sixty-one (61) total police-reported intersection-related accidents during the study period of January 1, 2001 to December 31, 2003. The most prominent collision types of the 61 reported accidents were rear ends (27) and left turns (19). There was only one (1) pedestrian related accident (non-fatal) reported during the study period which involved a pedestrian collision with a northbound vehicle on Georgia Avenue.

Pedestrian Counts - SHA conducted pedestrian counts for a 12 hour period at the Georgia Avenue-Forest Glen Road intersection in 2004. The following results were obtained:

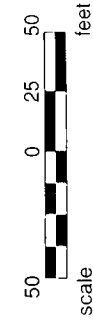
North Leg: 480
South Leg: 170
East Leg: 100
West Leg: 200

Forest Glen Station Access Assessment



Note: Right-of-way, property boundary and topography indicated as per Montgomery County GIS.

Site Plan



Forest Glen Station Access Assessment

4.0 Potential Access Improvements

4.1 Planned At-Grade Intersection Improvements

MDOT has short term plans for improvements at the Georgia Avenue-Forest Glen Road intersection. These improvements include installing pedestrian countdown signals and re-phasing traffic signals. MDOT's long term plans include widening along the east side of Georgia Avenue to provide dedicated left turn lanes.

4.1.1 Pedestrian Countdown Signals - MDOT's planned improvements include replacing the existing pedestrian signals with the "countdown" type that inform the pedestrian of the amount of time remaining to safely cross the street. These signals provide pedestrians and drivers a better idea of exactly how much time is left to cross the street, than the often misunderstood "flashing hand".

4.1.2 Forest Glen Road - The side street phasing will be changed to improve progression along Forest Glen Road. Forest Glen Road would have a lead/lag left-turn favoring the westbound traffic in the morning. In addition, MDOT will change the east-bound right-turn lane to a shared thru and right-turn lane in the evening to improve eastbound traffic. The lead/lag phase will help the majority of the pedestrian traffic cross Georgia Avenue by stalling the eastbound lefts and provide a protected phase for pedestrian crossing. The shared right-turn lane will allow safer passage for the south leg pedestrians.

4.1.3 Georgia Avenue - If MDOT can obtain an easement or right-of-way along the east side of Georgia Avenue (mainly in the southeast quadrant) the State will proceed with its plans to install left turn lanes.

4.2 Potential At-Grade Intersection Improvements

In addition to the planned intersection improvements by MDOT, constructing a pedestrian refuge on the north side of Georgia Avenue should be considered as part of overall plan for pedestrian access improvements. A pedestrian refuge would provide an area for people to wait for the next pedestrian walk cycle in the event they couldn't cross Georgia Avenue in the allotted time. This would require extending the existing median and constructing a turn-down curb level with the crosswalk.

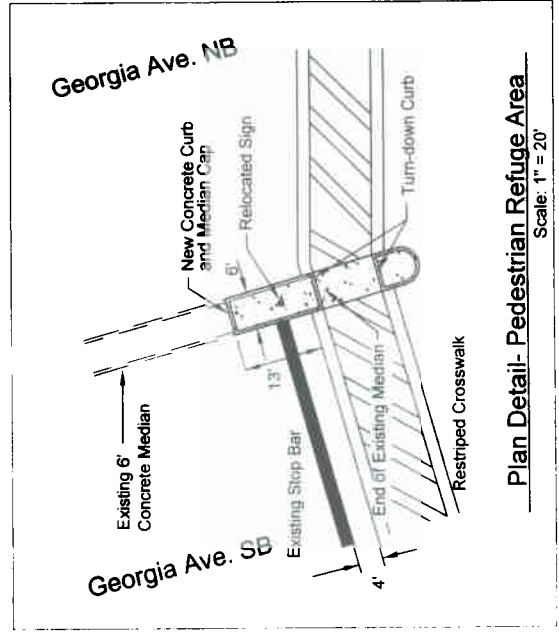
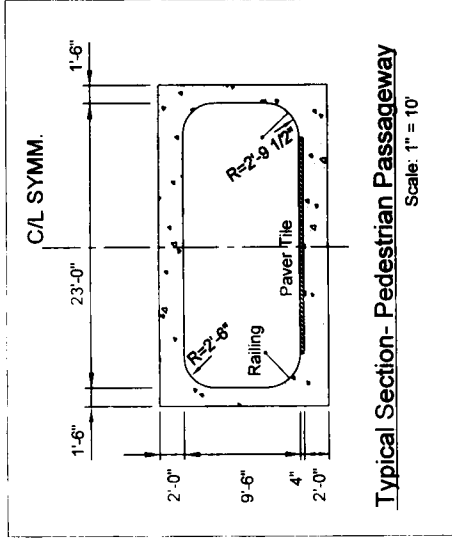
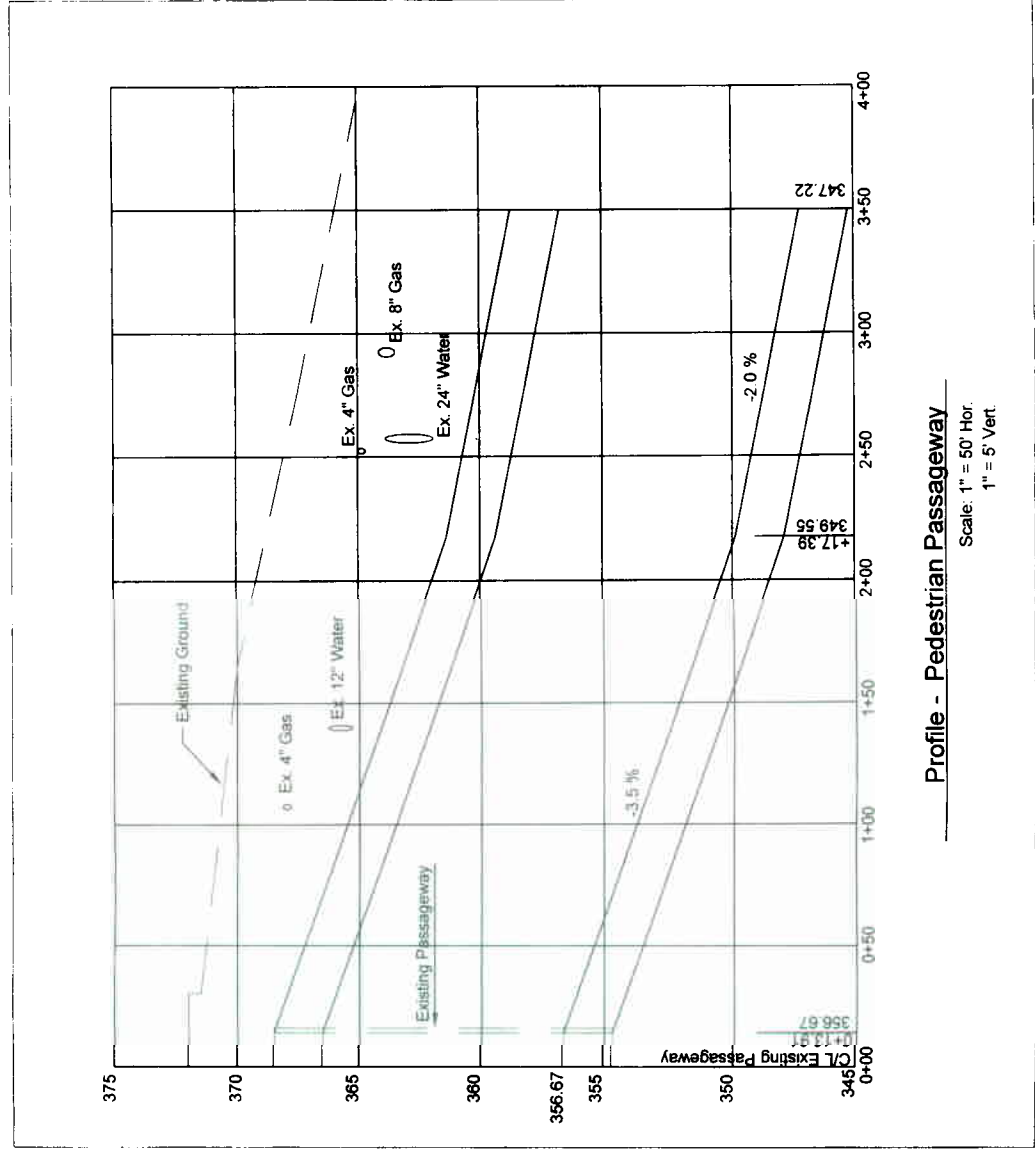
4.3 New Elevator Entrance and Pedestrian Passageway

Concepts were developed for a new elevator and stairway entrance on the northeast corner of the Georgia Avenue-Forest Glen Road intersection that connects to an underground pedestrian passageway. The intent of the new entrance and passageway is to provide pedestrians with access to the Forest Glen Station without having to cross Georgia Avenue.

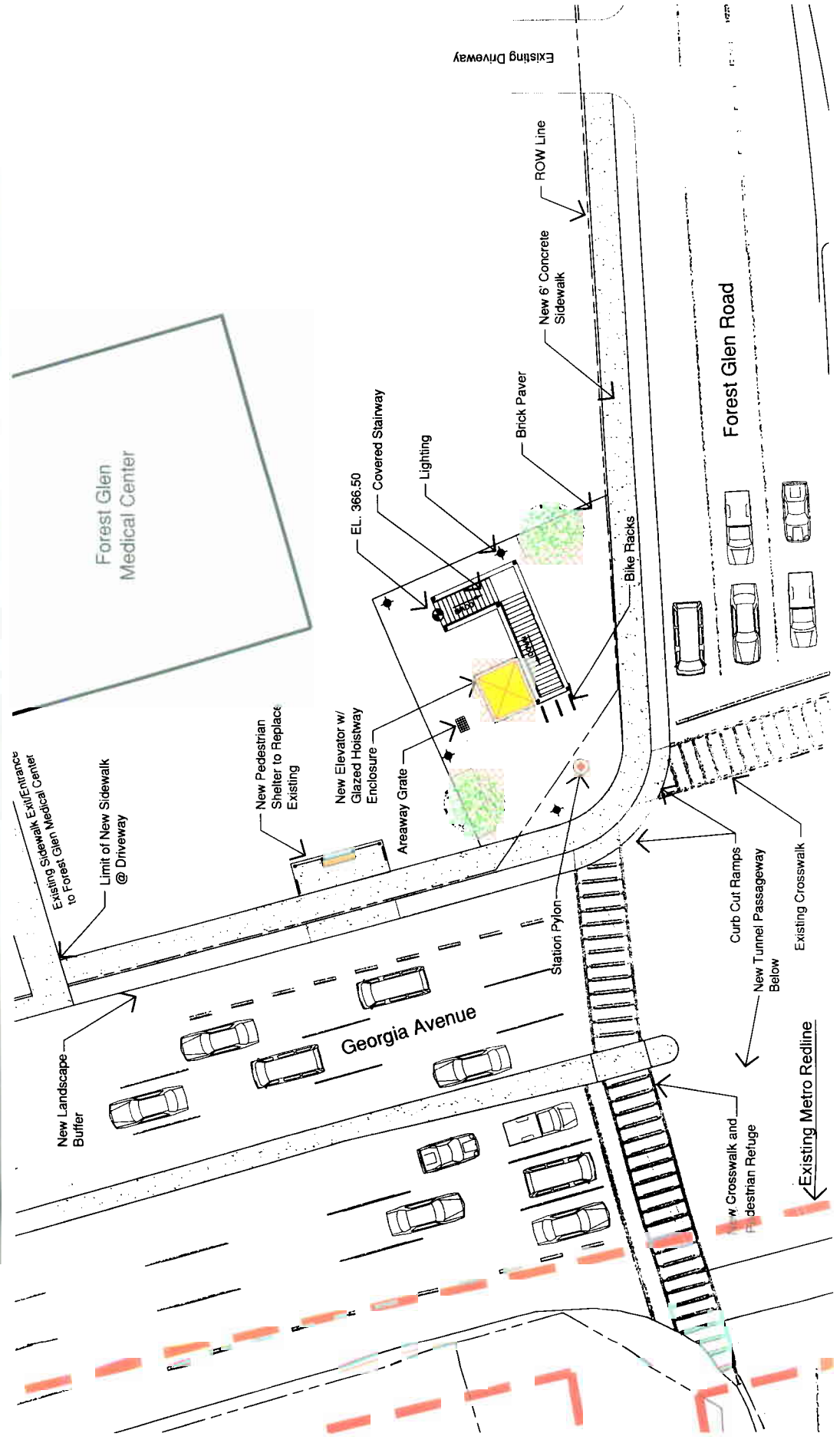
The new entrance consists of a plaza area with one elevator and a covered stairway connecting to the underground passageway. The plaza area includes bike racks, landscaping, pedestrian-scale lighting, a Metro pylon, and connecting sidewalks along Georgia Avenue and Forest Glen Road. (Refer to Sheet 9).

The new pedestrian passageway runs under Georgia Avenue and Forest Glen Road and connects to the existing passageway. The passageway is 336' long and 23' wide with a ceiling height of 9'-6". There is a mechanical room along with storage room adjacent to the elevator. (Refer to Sheets 6, 8, & 10).

Forest Glen Station Access Assessment



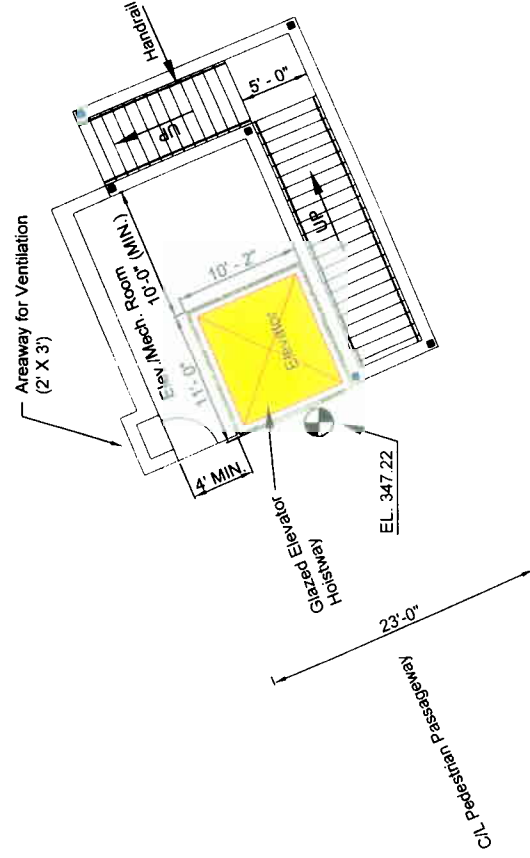
Forest Glen Station Access Assessment



Elevator Station Entrance
Street Level Plan

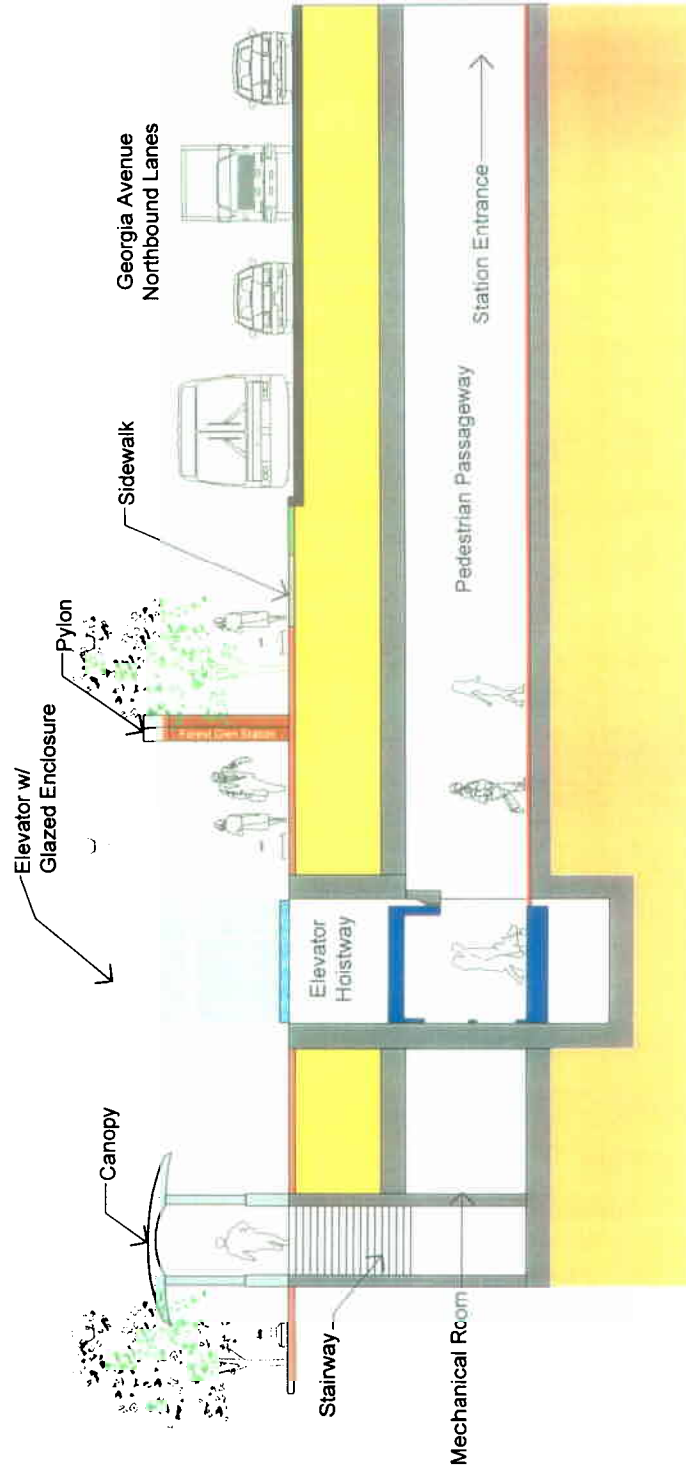


Forest Glen Station Access Assessment

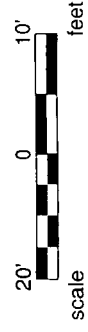


Elevator/Stairway & Mechanical Room Plan
Passageway Level

Forest Glen Station Access Assessment



Elevator Station Entrance Cross Section
Looking South



Forest Glen Station Access Assessment

5.0 Order of Magnitude Cost Estimate

1. Pedestrian Tunnel Passageway

Includes: shoring, excavation, backfilling, temporary traffic decking, concrete for tunnel and stair, railing along walls, hand railing at stairs, elevator, stair canopy/cover, ceiling and floor finishing, HVAC, lighting and power, traffic controls (detour aids and flagmen).

\$8.25 M

2. External Work

Includes: demolition, utility relocation and support, roadway pavings and patches, street demarcations and striping, brick paving with concrete pad, curb and gutter with 6' wide concrete sidewalk, handicap curb ramp, median pedestrian refuge, landscaping, screen shelter, bike rack system, exterior graphics-pylon, external street lighting, temporary protection/structures, and traffic controls.

\$0.60 M

Sub-Total	\$8.85 M
20% Contingency	\$1.77 M
Total	\$10.62 M

Note: The cost estimate addresses only the hard cost. Soft cost items such as preliminary engineering, insurance, and WMATA Project Management and Administration are excluded. Also, right-of-way and easement acquisition is not included in this estimate.

Forest Glen Station Access Assessment

6.0 Findings

Traffic along Georgia Avenue at Forest Glen Road is very heavy especially in the a.m. peak period. Traffic volumes obtained by SHA on a typical day in August 2003 indicated a total of 64,446 vehicles passing thru this intersection from 7:00 a.m. to 6:00 p.m.. Pedestrians accessing the Forest Glen Station from the east must cross Georgia Avenue. In order to improve the safety of pedestrian movements within this intersection, MDOT/SHA has on-going plans to install a pedestrian countdown signal and also to adjust the signal phasing to include a lead/lag left phasing for the westbound traffic in the morning.

This study presents two concepts that, if implemented and in conjunction with SHA's plans, would further enhance pedestrian safety crossings at the Georgia Avenue and Forest Glen Road intersection. The pedestrian passageway tunnel, in combination with the street elevator and stairway, would provide direct access to the Forest Glen Metrorail Station via the existing passageway which connects to the station mezzanine level. The construction of the passageway tunnel comprises the majority of the costs as presented in Section 5.0 Order of Magnitude Cost Estimate.

The at-grade improvements as presented in this study will provide a refuge area for pedestrians crossing along the north leg of the intersection in conjunction with MDOT/SHA's plans for a pedestrian countdown signal. These improvements comprise a small percentage (less than 0.50%) of the total costs and can be implemented independently of the pedestrian tunnel.