

## 4 METRORAIL STATION IMPROVEMENTS

In response to a request from the City of Alexandria and other members of the King Street Planning Task Force, the study was expanded to include analysis of existing conditions inside the south station mezzanine and to propose concepts to make the station more customer friendly and accessible. Improvements presented by the stakeholders in the community walkaround included: a direct connection between the Metrorail station south mezzanine and the Union Station platforms with a tunnel passageway; wayfinding signage; bicycle racks; and a DASH commuter store.

### 4.1 Existing Conditions

The King Street Station is served by two mezzanines and three entrances. The main mezzanine is located at the south end of the station and has two entrances: the Diagonal Road/Bus Bay entrance; and the King Street entrance with its own fare collection systems (**Figure 4-1**). The Cameron Street/Commonwealth Avenue entrance (not shown), which opened in 2006, is located at the north end of the station.

#### 4.1.1 Fare Collection Systems

The fare collection systems in the Diagonal Road/Bus Bay entrance mezzanine fare collection systems consists of seven faregates, a station manager's kiosk, five fare vendors, and three add-fare vendors which also serve the King Street entrance. The King Street entrance mezzanine has four faregates and two fare vendors. The Cameron Street/Commonwealth Avenue entrance mezzanine fare collection systems consist of four faregates, a station manager's kiosk, and two fare vendors.

#### 4.1.2 Vertical Transportation Systems

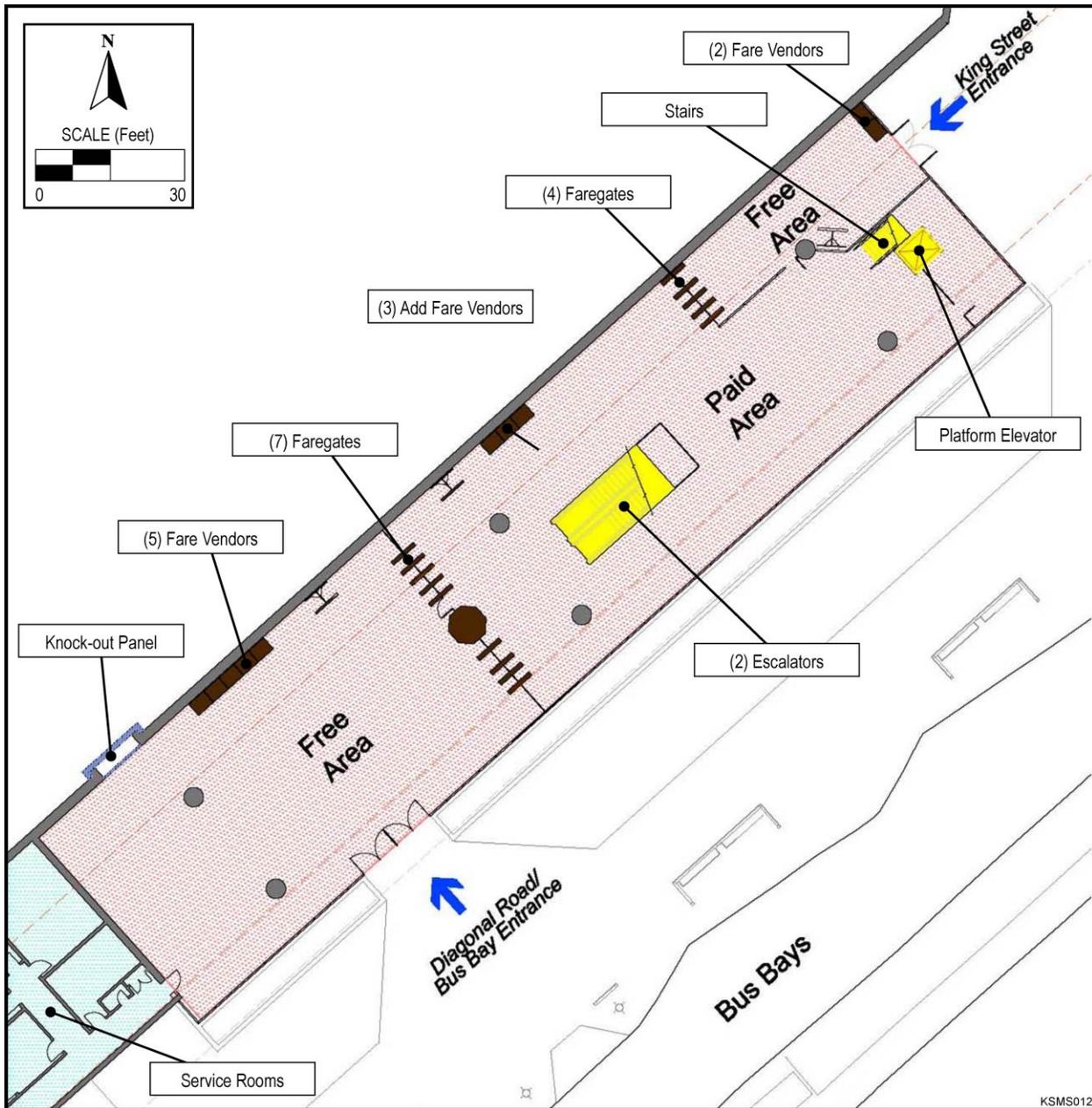
Vertical transportation systems from the aerial platform to the Diagonal Road/Bus Bay and King Street entrance mezzanine consists of a set of two escalators, one stair, and one elevator. The Cameron Street/Commonwealth Avenue mezzanine has two elevators and one stair. Both mezzanines have ample capacity for existing and future ridership growth.

### 4.2 VRE Passageway Tunnel

With the potential for high speed rail service extending from Washington, DC to Charlotte, North Carolina [[www.sehsr.org/history.html](http://www.sehsr.org/history.html)], the City requested a new feasibility study for a future passageway tunnel under the CSX tracks connecting the station mezzanine to Union Station. The King Street station was designed with an elongated mezzanine and constructed with a knock-out panel in the west wall of the south mezzanine to accommodate such a connection (**Figures 4-2 and 4-3**). After completion of the new tunnel, the existing tunnel would be abandoned (**Figure 4-4**). **Figures 4-5 through 4-7** show locations of the facilities that would provide access to the new tunnel connection.

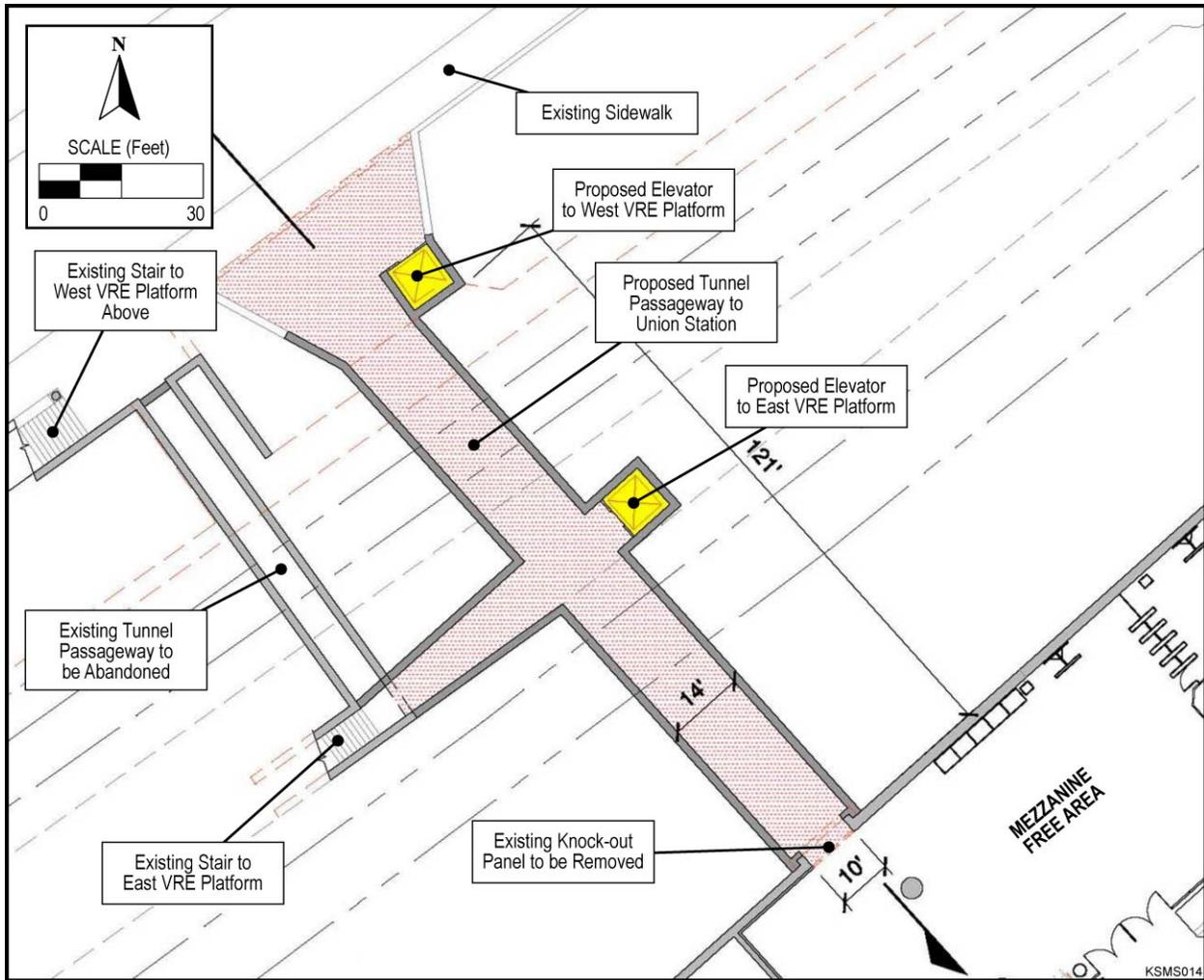
# KING STREET STATION

## Access Improvement Study

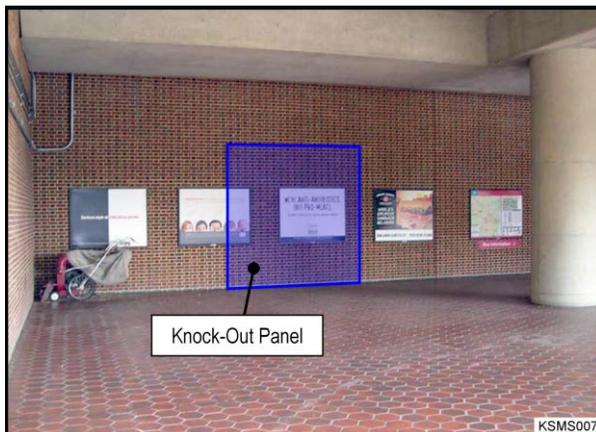


**Figure 4-1: South Mezzanine - Existing Conditions**

Building the new tunnel passageway would greatly improve access between the two stations for customers using wheelchairs, pushing strollers, or pulling luggage. For customers that cannot use stairs to transfer between stations, they must use the sidewalk along the parking lot at Union Station and enter through the main entrance on the west side of Union station to access the VRE/Amtrak platforms. To access the east platform from Union Station, passengers must request assistance to travel over the rail tracks. The new tunnel would provide convenient elevator service to both VRE/Amtrak platforms.



**Figure 4-2:** Aerial Plan – Union Station Tunnel Passageway Connection



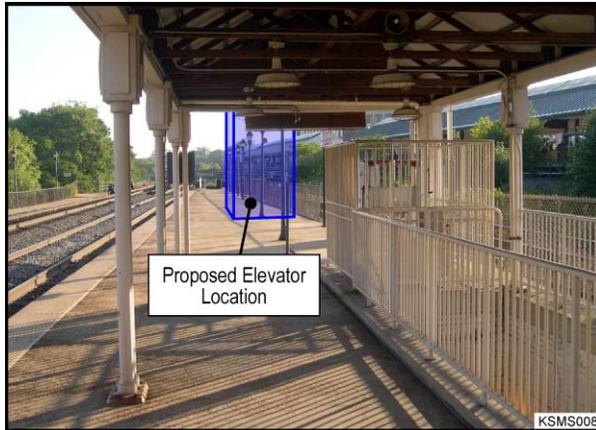
**Figure 4-3:** King Street Station – Mezzanine



**Figure 4-4:** Union Station – Tunnel to East Platform

# KING STREET STATION

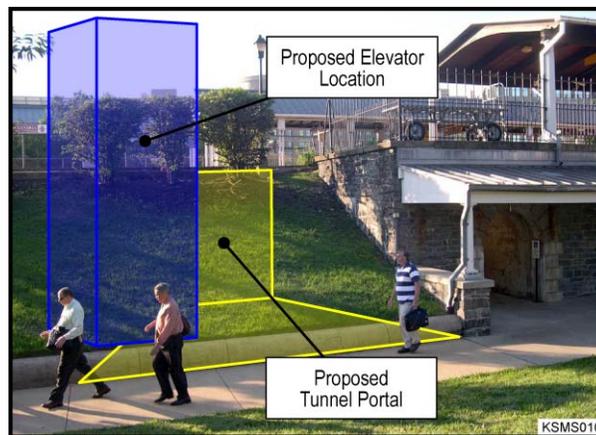
## Access Improvement Study



**Figure 4-5:** Union Station – East Platform  
Looking North



**Figure 4-6:** Union Station – West platform  
looking Northwest



**Figure 4-7:** Union Station – West platform  
looking East

An engineering assessment of the concept plan and section shown on Figures 4-8 and 4-9 determined that the passageway is feasible to construct, with the cost being in the order of magnitude of \$4.5M (Table 5-3).

### 4.3 WAYFINDING SIGNAGE

With planned express bus service from the station and water taxi service from Old Town, the National Harbor development and convention facilities are expected to generate additional visitors to Alexandria via the King Street station. With the lack of adequate tourist information systems at the station, the City requested that Metro evaluate potential locations in or directly outside the station for informational and wayfinding signage that would direct visitors to points of interest in Alexandria via bus or walking. In April 2008, the City installed a new map sign to replace the existing informational signage on the bus platform (Figure 4-10) in front of the station entrance. The old map sign included points of interest in the vicinity but was difficult to read for the occasional tourist.

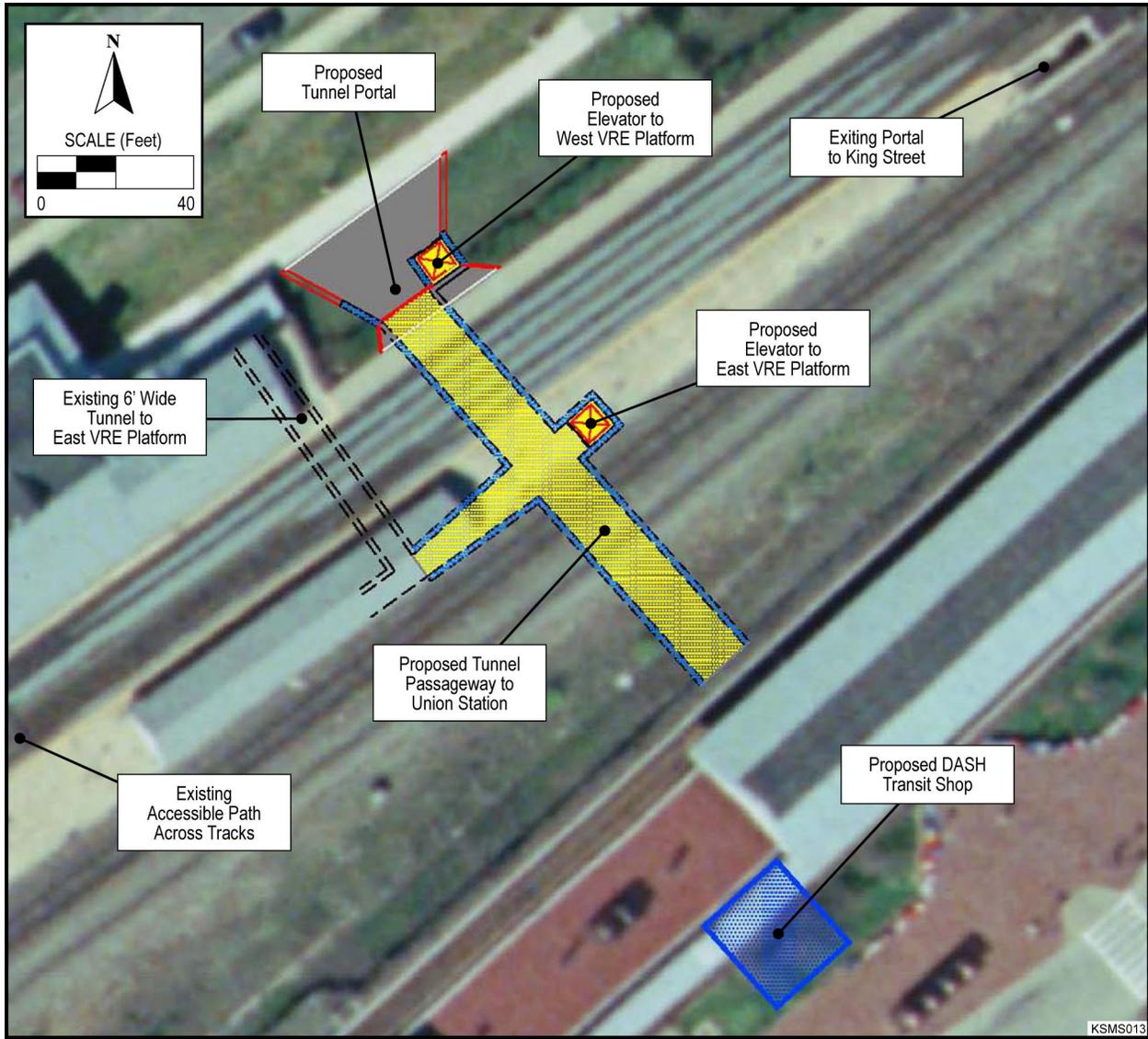


Figure 4-8: Aerial Plan – Union Station Tunnel Passageway Connection

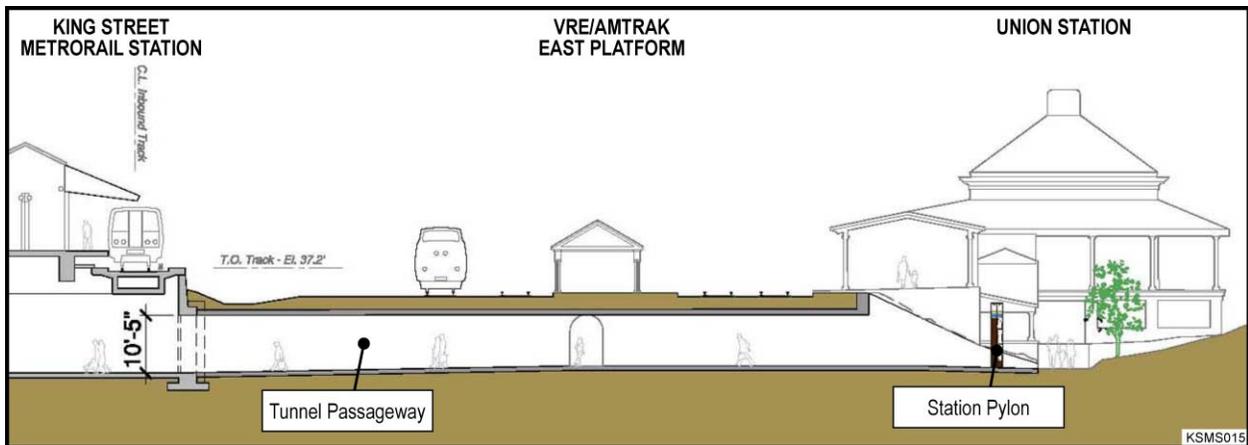


Figure 4-9: Section – Tunnel Passageway Looking South

# KING STREET STATION

## Access Improvement Study

The new map sign provides tourist information and directions to points of interest on one side (Figure 4-11), and provides a comprehensive map of the DASH system bus routes on the opposite side of the sign (Figure 4-12).

### 4.4 Bicycle Storage

The existing bike storage facilities at the station are over capacity and do not meet new Metro criteria for covered, U shaped bike racks located within site of the station manager kiosk. The clear space in front of the security grill on the inside, southeast corner of the mezzanine would accommodate up to fifteen racks for 30 bicycles (Figure 4-13). The existing racks adjacent to the King Street entrance, below the aerial track structure, should be replaced with the new U shaped racks to augment the new racks added to increase needed capacity.



Figure 4-10: Map Sign

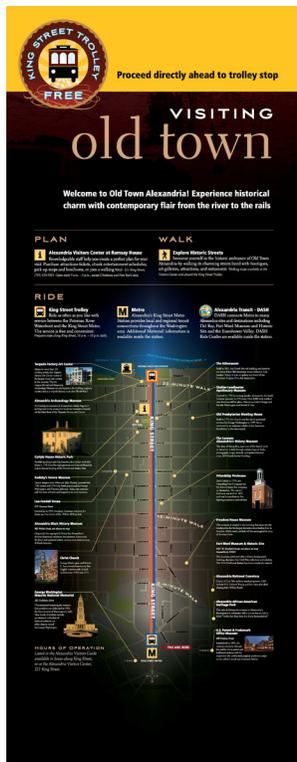


Figure 4-11: Map Showing Key Points of Interest along King Street Trolley Route

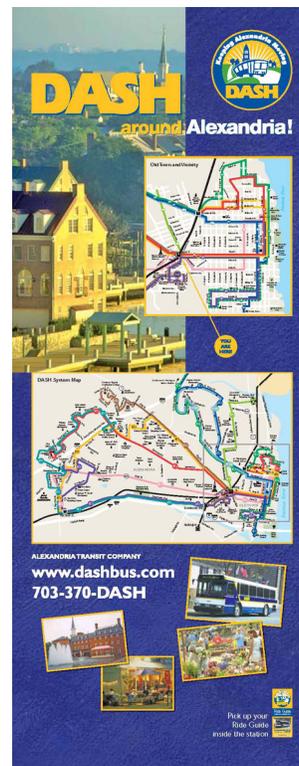


Figure 4-12: Map Showing DASH Routes

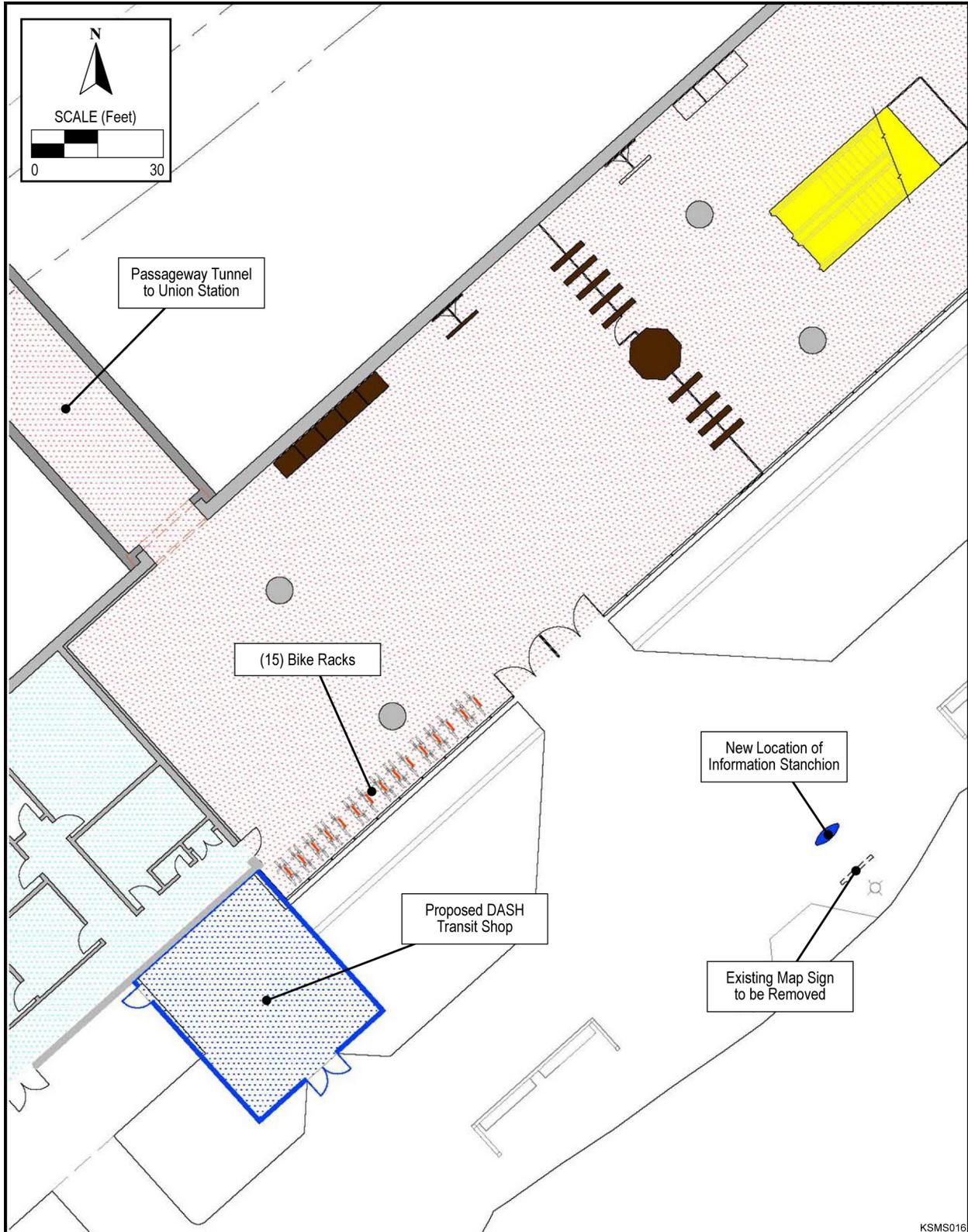


Figure 4-13: Proposed Mezzanine Improvements

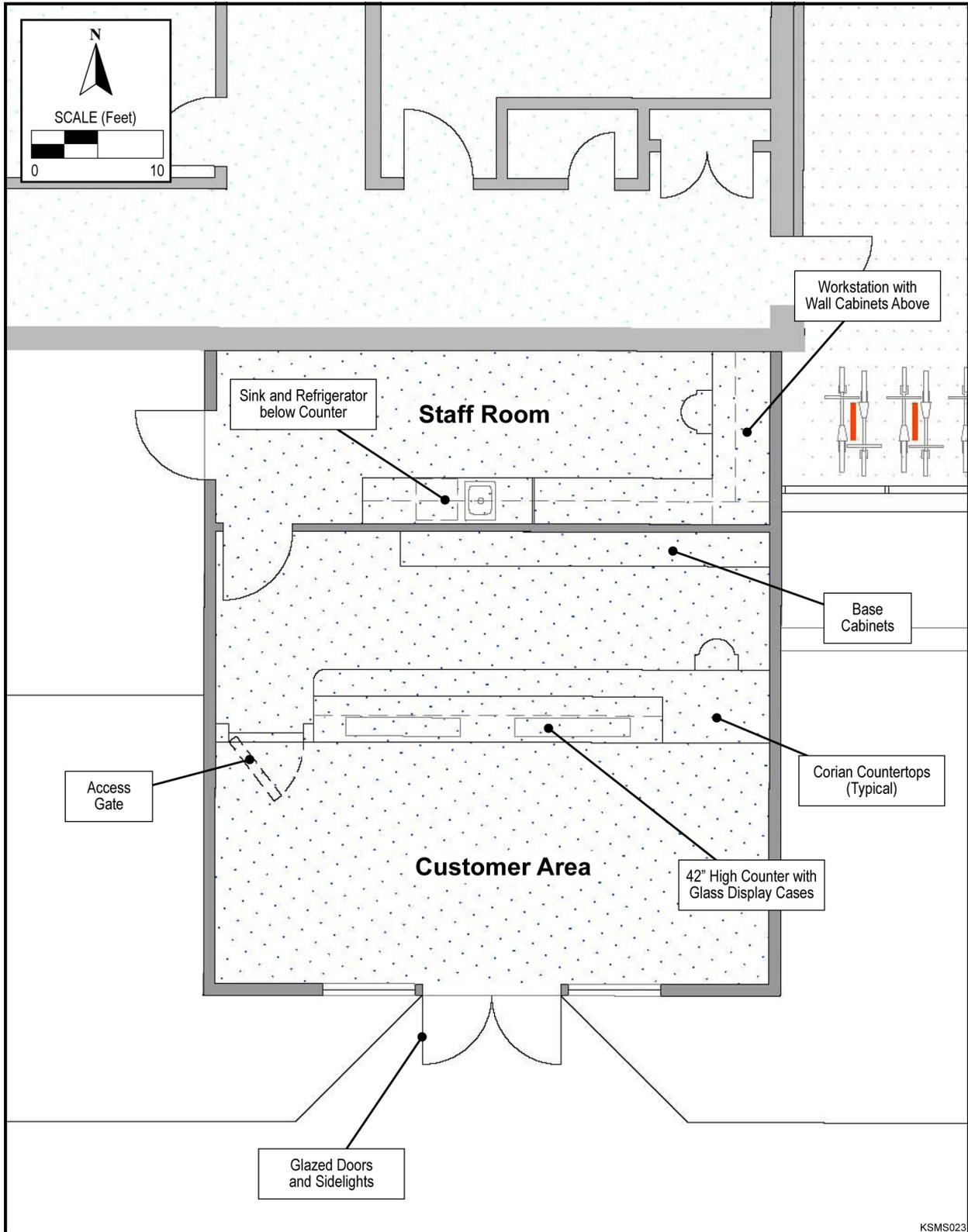
## 4.5 DASH Transit Shop

The City of Alexandria currently leases retail space at 1775C Duke Street, across Diagonal Road from the King Street station for a DASH commuter store [www.alexride.org/transitshop.php]. To make using the store more convenient for transit customers, DASH requested Metro evaluate potential locations for the store at the King Street station. The location proposed on Figure 4-13 and shown in the photo in **Figure 4-14**

shows a building footprint for 700 square feet of retail space with direct access from the station bus bays. The order of magnitude cost estimate for the transit shop shown in Section 5.2 is based on the concept plan shown in **Figure 4-15**.



**Figure 4-14:** King Street Station – Platform  
Looking Northwest



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Figure 4-15: Concept Plan – DASH Transit Shop at King Street Station