

EXISTING NEEDS

Eight of the nine existing bus bays currently have routes assigned to them. The ninth bay is used as a layover location for buses when necessary. The number of bus bays currently at the station adequately serve the needs of the Metro and Ride On buses. The frequency of service has not been maximized by the buses that use the station currently. Each route which has a headway of less than 10 minutes is assigned its own bay. The routes which operate solely during peak periods share bays as well as those which operate with multiple route numbers traveling predominantly on the same roads.

Table H-1
Headways of Buses Served at the Bus Bays of the Takoma Metro Station

Bus Bay #	Routes Served	Max. Headway (mins)	Min. Headway (mins)
1	62	26	8
2	K2	23	20
3	<u>F1, F2, Z19</u>	50, 300	14, 64
4	<u>52, 53, 54</u>	23	14
5	18, 25	30, 40	10, 4
6	16, 18	27	9
7	12, 13	30, 41	10, 20
8	3*, 14, 24*	30*, 33, 33*	23*, 26, 15*
9	Spare	---	---

Indicate routes which travel along the same roadways with the exception of spurs within the route

* Peak period service only

CALCULATION OF EXISTING BUS BAY NEEDS

The number of bus bays required to service the station was calculated by assessing the number of routes utilizing the station and assigning each route a specific bay. If a route terminates at the station, a bus bay is assigned to the route since the bus would likely layover at the station. A separate bus bay is generally assigned to a route under the following conditions:

- The route frequency during the peak period is less than every ten minutes.
- The route lays over at the station
- The station is one of the terminal points for the route

Utilizing the existing bus schedules, the peak periods were assumed to be between 7:00 – 8:30 AM. and 5:00 and 6:30 PM. The maximum number of buses utilizing the bus bays during the peak half hour in each peak period was assessed to determine the existing usage at the station. As shown in Table H-2, based upon the current frequency of buses using the station, there are enough bays to satisfy the needs of the station. These nine

bays may accommodate the routes using the station and additional growth through increased frequency at four of the nine bays (2, 3, 4 and 9).

**Table H-2
Existing Bus Bay Usage at Takoma Metro Station**

Bus Bay #	Routes Served	Minimum Headway (min)	Peak Number of Buses Served During AM Peak Hour	Peak Number of Buses Served During PM Peak Hour	Max Allowable Growth in Peak	Max Allowable Growth in Peak (%)
1	62	8	6	5	0	0%
2	<u>K2</u>	20	3	3	3	100%
3	<u>F1, F2</u>	14	3	2	3	100%
	<u>Z19</u>	64	0	1		
4	<u>52, 53, 54</u>	14	5	4	1	20%
5	18	10	7	5	0	0%
	25	4	5	4		
6	16	9	3	6	0	0%
	18	10	3	5		
7	12	10	4	4	0	0%
	13	20	2	2		
8	3	23	2	2	0	0%
	14	26	2	2		
	24	15	4	3		
9	<u>Spare</u>	--	--	--	--	--

CALCULATION OF FUTURE NEEDS AND POTENTIAL

The addition of two Ride On routes, one to accommodate increases in service due to the Montgomery College expansion and one to accommodate long term needs, will necessitate the provision of two additional bus bays at the Takoma Metro station. The Takoma Transportation Study recommends the addition of two more routes to service the area based upon community needs and future development potential in the area. The addition of these two routes recommended by the Takoma Transportation Study will require the provision of one more bus bay¹. Thus, the Takoma Transportation Study recommends that a total of 12 bus bays (three more than are currently available at the station) be provided at the Takoma Metro station.

¹ One of these routes, the re-introduction of the K8, would operate similarly to the existing K2, having a spur which services 3rd Street. The assumed headways for this route is 15 minutes so this route would share a bus bay with the K2.

Generally, bus bays may be shared based upon the frequency with which routes access the station. Two or more routes may share a bay if:

- The routes generally travel on the same roadways with the exception of small spurs which service different areas
- The route's frequency does not exceed six minutes¹

As Table H-3 indicates, increases in the number of bus passengers served at the station can be accommodated by increased bus frequencies. The proposed 12 bus bays have reserved capacity to accommodate increased frequency of operations for most of the routes serving the Takoma Metro Station. Therefore, the addition of three bus bays (for a total of 12 bus bays) will be sufficient to accommodate more frequent transit service for the existing routes, the addition of two Ride On buses, and the addition of two WMATA bus routes recommended by this study.

**Table H-3
Potential Increase in Bus Bay Usage for the Takoma Metro Station**

Bus Bay #	Routes Served	Minimum Headway (min)	Peak Number of Buses Served During AM Peak Hour	Peak Number of Buses Served During PM Peak Hour	Potential Increase in Bus Bay Usage (per hour) ¹	Potential Increase in Bus Bay Usage ¹ (%)
1	62	8	6	5	4	67%
2	K2	20	3	3	3	43%
	K8	15	4	4		
3	F1, F2	14	3	2	7	233%
	Z19	64	0	1		
4	52, 53, 54	14	5	4	5	100%
5	18	10	7	5	0	0%
	25	4	5	4		
6	16	9	3	6	0	0%
	18	10	3	5		
7	12	10	4	4	4	67%
	13	20	2	2		
8	3	23	2	2	2	25%
	14	26	2	2		
	24	15	4	3		
9	Montgomery College	30	2	2	8	400%

¹ Until recently, transit planning techniques called for the use of an exclusive bus bay for routes operating at headways of ten minutes or less. However, the use of improved scheduling techniques, the installation of automatic vehicle location systems, and the utilization of improved communications have helped reduce the frequency at which a bus needs to operate in an exclusive bus bay from ten minutes to six minutes. The maximum frequency of buses to be accommodated at a bay through the station is every six minutes. Based on this, each bus bay is able to accommodate ten buses per hour.

Bus Bay #	Routes Served	Minimum Headway (min)	Peak Number of Buses Served During AM Peak Hour	Peak Number of Buses Served During PM Peak Hour	Potential Increase in Bus Bay Usage (per hour) ¹	Potential Increase in Bus Bay Usage ¹ (%)
	<i>New Route</i>					
10	<i>New Ride On Route</i>	15	4	4	6	150%
11	<i>New Ride On Route</i>	15	4	4	6	150%
12	Spare		0	0	10	N/A

¹The potential increase in bus bay usage was calculated comparing the existing number of buses currently served or proposed to be served at each bus bay to the maximum number of buses that could potentially be served at each bus bay.

Indicate routes which travel along the same roadways with the exception of spurs within the route

* Peak period service only

**Table H-4
Potential Increase in Bus Bay Usage**

Bus Bay #	Routes Served	Min Headway (min)	AM Peak				PM Peak				Peak Number of Buses Served During PM Peak Hour	Existing		Future	
			Max buses 7 ⁰⁰ - 7 ³⁰	Max buses 7 ³⁰ - 8 ⁰⁰	Max buses 8 ⁰⁰ - 8 ³⁰	Max buses 5 ⁰⁰ - 5 ³⁰	Max buses 5 ³⁰ - 6 ⁰⁰	Max buses 6 ⁰⁰ - 6 ³⁰	Peak Number of Buses Served During AM Peak Hour	Max Allowable Growth in Peak		Max Allowable Growth in Peak (%)	Potential Increase in Bus Bay Usage (per hour) ¹	Potential Increase in Bus Bay Usage (%)	
1	62	8	3	3	2	2	3	2	2	6	5	0	0%	4	67%
2	K2	20	1	2	1	1	2	1	1	3	3	3	100%	3	43%
3	K8	15	2	2	2	2	2	2	2	4	4	3	100%	7	233%
3	ELF2	14	2	1	2	1	1	1	1	3	2	3	100%	7	233%
3	Z19	64	0	0	0	1	0	1	1	0	1	0	0%	0	0%
4	52, 53, 54	14	2	3	1	2	2	1	2	5	4	1	20%	5	100%
5	18	10	3	3	4	3	2	2	2	7	5	0	0%	0	0%
5	25	4	2	3	2	2	2	2	2	5	4	0	0%	0	0%
6	16	9	0	1	2	2	2	3	3	3	6	0	0%	0	0%
6	18	10	2	1	1	2	3	2	2	3	5	0	0%	0	0%
7	12	10	1	2	2	2	2	2	2	4	4	0	0%	4	67%
7	13	20	0	1	1	1	1	1	1	2	2	0	0%	2	25%
8	3	23	1	1	1	1	1	1	1	2	2	0	0%	2	25%
8	14	26	0	1	1	1	1	1	1	2	2	0	0%	2	25%
8	24	15	1	2	2	1	2	1	2	4	3	0	0%	2	25%
9	Montgomery College New Route	30	1	1	1	1	1	1	1	2	2	N/A	N/A	8	400%
10	New Ride On Route	15	2	2	2	2	2	2	2	4	4	N/A	N/A	6	150%
11	New Ride On Route	15	2	2	2	2	2	2	2	4	4	N/A	N/A	6	150%
12	Spare									0	0			10	N/A

¹ Until recently, transit planning techniques called for the use of an exclusive bus bay for routes operating at headways of ten minutes or less. However, the use of improved scheduling techniques, the installation of automatic vehicle location systems, and the utilization of improved communications have helped reduce the frequency at which a bus needs to operate in an exclusive bus bay from ten minutes to six minutes. The maximum frequency of buses to be accommodated at a bay through the station is every six minutes. Based on this, each bus bay is able to accommodate ten buses per hour.