

Facility Needs Assessment

Facility Programming

An initial step in the planning and design of an intermodal transit center for the City of Roanoke is the development of the program for the facility. The central purpose of this process is to identify and understand the nature of the challenges and needs associated with the facility. The program is a detailed list of the activities that will take place at the transit center and a determination of the level at which the activities will occur. The program identifies the different modes of transportation and forms of vehicle, pedestrian and bicycle access that will serve the facility. It also identifies the number and types of vehicles that will operate into and out of the intermodal facility including peak period demands and the number of passengers that will use the facility.

Intermodal transit centers may include administrative offices and operations functions for the employees such as break rooms, locker rooms and meeting rooms. The facility program also identifies the amenities that will be provided for the public at the intermodal center. These amenities can include climate controlled waiting areas, seating, bathrooms, information kiosks, vending or food service areas and other services inside the building and items such as bicycle racks or storage areas outside of the building. Because the transit center would serve both Valley Metro and Amtrak riders and employees, planning for shared functional spaces is essential in the design of an efficient intermodal facility.

All of this information is collected by the design team and then used to develop site, size and space planning estimates using industry standards for the activities. The acreage required for the site is determined by examining the access, movement and storage requirements for transit and service vehicles, the structure size for the facility and pedestrian, bicycle and automobile access and parking requirements for the facility. The approximate square footage required for the facility structure is determined by listing the activities that will take place at the facility and by using industry standards to calculate the amount of space that will be required to support those activities.

Information to develop the facility program was collected by the design team through interviews with City administration and planning individuals and Valley Metro staff. In individual discussions and joint meetings, the current and future needs for the facility were established and a list of activities was developed for the facility program. Both current and future needs were discussed as per Federal Transit Authority requirements the intermodal transit center must be designed to accommodate any future expansion of transit services that is likely to take place during the forty year useful life of the facility. From these discussions, the program information was developed for vehicle operations, slip alignment and juxtaposition, building envelope and passenger amenities. In addition, a public information meeting was held to solicit ideas, suggestions and recommendations from system users and the general public for the proposed facility. Attendants were able to give verbal and written comments for the City and designers to consider while developing the program and designing the new intermodal facility.

The following section includes an overview of the facility uses, detailed program schedules for transit, rail, and site considerations. Programming questionnaires and public input forms and comments are located in Appendix A of this report.

On-Grade Bus Platform	
PLATFORMS, ON-GRADE	20 (16 MIN)
COACHES/REGIONAL BAYS	5
PARATRANSIT BAY	0

CONCEPT DESIGN
11/6/2014

BUS / REVENUE VEHICLES		OTHER PARKING		REMARKS
	Program		Program	
Bus Bays, standard; 36 - 42-ft	13	Taxi	5	Taxi Stand: 3-5 spots with train
Bus/Coach Bays; 40 - 45-ft	3	Supervisors	2	2 minimum
Layover Bay	2	Employees	3	2-3 custodial workers (1 inside, 1 outside)
Total Bus Bays	18	Drivers	16-20	
		Delivery		Vendors - Confirm with Greyhound/Amtrak
		K & R	6	Kiss and Ride - Confirm with Greyhound/Amtrak
Bike Share/Bike Storage	25-40	Car-share		Zip Car - Confirm with Greyhound/Amtrak
		Van/Carpool		Van Pools, Car Pools - Confirm with Greyhound/Amtrak
		Alt Vehicles		
		On-Site Total		

Key: OF = Office; WS = workstation/area; CL = Closed; OP = Open; SF = square feet; GRTC = Greater Roanoke Transit Company; GH = Greyhound; AM = Amtrak SH = Shared; F = Fenced

Note: Room areas on floor plans may vary from this schedule; program represents minimum or an estimate for individual rooms; rooms may vary due to configuration

ROOM #	DESCRIPTION	SPACE	SF EACH	QUANTITY	SF	GRTC/GH/AM/SH	REMARKS	FLOOR	CODE / REG / STANDARD
Transit Facility Building									
TF 1	Passenger Waiting	OP	15	40	600	SH	Access to amenities, wifi (train waiting space is combined)	1	
TF 2	Queuing for customer service	OP	15	2	30	SH	3' x 5' per person	1	
TF 3	Dispatch (supervisors)	OF	100	2	200	GRTC	Needs to have view to buses	1	
TF 4	Customer Service Office	WS	60	3	180	SH	ticket sales, photo area,	1	
TF 5	Cash Vault (fare storage)	OF	10	1	10	GRTC	in customer service area. Small vault under the desk.		
TF 6	Security Office	OF	200	1	200	SH		1	
TF 7	Copy/Work	OP	100	1	100	SH	Shared	1	
TF 8	Break Room	CL	300	1	300	SH	12 tables & chairs; pantry (counter, cabinet, sink, refrig)	1	
TF 9	Operators' Room	CL	300	1	300	GRTC	16 drivers	1	
TF 10	Lockers, half-height, stacked	CL	15	36	270	GRTC	Adjoining Drivers Room	1	
TF 11	Employee Toilet - Women	CL	200	1	200	SH	2 WC; 2 lav; 1 shower	1	
TF 12	Employee Toilet - Men	CL	200	1	200	SH	1 UR; 1 WC; 2 lav; 1 shower	1	
TF 13	File Room	CL	120	1	120	SH	Office supplies, brochures, schedules; 5-drawer lateral	1	
TF 14	Custodial	CL	60	2	120	SH	Housekeeping Closet	1	
TF 15	Drinking Fountain	OP	10	2	20	SH	electric water cooler	1	
TF 16	Public Restroom, Women	CL	240	2	480	SH	3 WC; 3 lavs; baby changing station, shower	1	
TF 17	Public Restroom, Men	CL	240	2	480	SH	2 UR; 1 WC; 3 lavs; baby changing station, shower	1	
TF 18	Lost & Found	CL	120	1	120	SH		1	
TF 19	GRTC IT	CL	150	1	150	GRTC	Incl NextBus	1	
TF 20	Kiosks	OP	20	4	80	SH	Incl queuing; ticketing kiosk, visitor information	1	
TF 21	Vending	OP	20	6	120	SH	Food/beverage (4); ATM (1); sundries (1)	1	
TF 22	Vending Storage	CL	10	6	60	SH		1	
TF 23	Elevator, 3500 lb; 1st floor	CL	100	1	100	SH	Cab clear inside (3500 lb) 80"x 65"	1	EMS stretcher 23"x 77"
TF 24	Elevator landing	OP	0	2	0	SH	Included in Circulation	1	
TF 25	Elevator Machine Room	CL	100	1	100	SH	Access from roof; adjacent Stair A	1	
TF 26	Stair A, 1st floor landing	CL	190	1	190	SH		1	
TF 27	Stair B, 1st floor landing	CL	190	1	190	SH		1	
	Subtotal				4,920				
	Circulation			10%	492				
	Mechanical/Electrical			5%	271		Incl sprinkler		
	Building Factor			4%	227				
	Total Transfer Center			Total	5,910		1st Floor Transfer Facility		

On-Grade Bus Platform	
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CONCEPT DESIGN
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ROOM #	DESCRIPTION	SPACE	SF EACH	QUANTITY	SF	GRTC/GH/AM/SH	REMARKS	FLOOR	CODE / REG / STANDARD
AMTRAK Train Station									
AM	28 ticket office		220	1	220		quick trak and ticket office most likely shared with GRTC customer service		
AM	29 ticket counter		8	2	16		2' Deep x 4' wide		
AM	30 T&E Office		250	1	250		To accommodate up to 5 people at a time, with computers, printers and a small conference table.		
AM	31 Mechanical Foreman Office		120	1	120		2' Deep x 4' wide		
AM	32 Guest Office		120	1	120		2' Deep x 4' wide		
AM	33 Baggage room		200	1	200		if required		
AM	34 baggage claim		200	1	200				
AM	35 Secure Storage		300	1	300				
AM	36 Lunch/Break Room		300	1	300		Break room with kitchenette		
AM	37 Communication/IT closet		120	1	120		revenue equipment, passenger display equipment, security server		
AM	38 Shed		100	1	100		Shed for air compressor and salt storage (with 480V, 3 Phase service)		
AM	39 Connex Storage Containers		160	5	800		20'x8'x8.5' (LxWxH)		
AM	40 Dumpster Pad		144	1	144		12'x12'x12"		
SH	41 Community Space		400	1	400		if required		
SH	42 Public restrooms				0		shared with GRTC		
SH	43 amenities				0		shared with GRTC		
SH	44 Waiting area				0		Shared with bus waiting		
AM	45 Rail Platform		14	850	11,900		850' x 14' - allow for rail walk integration/ security call box/ canopy		
AM	46 package handling		200	1	200				
SH	47 bike racks				0		included in site requirements		
SH	48 drinking fountain				0		Shared with GRTC		
SH	49 trash receptacles				0		Shared with GRTC		
	Subtotal				15,390				
	Circulation			10%	1,539				
	Mechanical/Electrical			5%	846				
	Building Factor			4%	711				
	Total AMTRAK			Total	18,486				

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ROOM #	DESCRIPTION	SPACE	SF EACH	QUANTITY	SF	GRTC/GH/AM/SH	REMARKS	FLOOR	CODE / REG / STANDARD
TOD									
TOD	50	Hospitality			0				
TOD	51	Residential			0				
TOD	52	Office			0				
		Subtotal			0				
		Circulation		10%	0				
		Mechanical/Electrical		5%	0				
		Building Factor		4%	0				
		Total Building Above Transfer Center		Total	0				

Site Requirements											
S	52	Buses, standard		1,650	16	26,400		66	foot long sawtooth bay with 6' indent; incl bike rack	site	CNG potential
S	53	Buses, articulated		2,250	0	0		90	foot long sawtooth bay with 6' indent; incl bike rack	site	CNG potential
S	54	Platform, standard bus		1,193	16	19,082		18.07	foot wide; incl bench, ADA loading at bus door, detectable warning	site	
S	55	Platform, articulated bus		1,652	0	0		18.36	foot wide; incl bench, ADA loading at bus door, detectable warning	site	
S	56	Regional bus		1,650	5	8,250		66	foot long sawtooth bay with 6' indent; incl bike rack; Home Ride, Smart Way; also accommodate BT standard bus	site	
S	57	Regional bus Platform		1,193	5	5,965		18.07	foot wide; incl bench, ADA loading at bus door, detectable warning	site	
S	58	Layby/Layover Space		500	2	1,000			Allowance	site	
S	59	Bike Rack		96	4	384	SH		verify size/type	site	
S	60	Bike Lockers		12	4	48	SH		verify size/type	site	
S	61	Refuse Dumpster		60	1	60	SH				
S	62	Recycling Containers		20	2	40	SH				
S	63	Trash / Recycling Containers		3	14	incl	SH		on Bus Platforms		
S	64	Signage / Info Kiosk		3	14	incl	SH		on Bus Platforms		
S	65	Storage for exterior maintenance		300	1	300	SH		May be located inside building footprint		
S	66	Landscaped areas, walkways					SH		Strengthen pedestrian connection to the market area		
S	67	Bikeshare		360	1	360	SH				
		Subtotal				61,889					
		Circulation, bus vehicles			75%	46,417					
		Total Site Requirements			Total	108,306					

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Parking									
PK 68	Taxi			350	5	1,750			
PK 69	Police/Security			350	2	700			
PK 70	Employee/Driver			350	6	2,100	SH		Supervisor, Maintenance, office staff
PK 71	Delivery			500	1	500	SH		Loading dock/berth
PK 72	Kiss & Ride			176	6	1,056	SH		
PK 73	Car-share/rental			350	8	2,800			
PK 74	Vanpool/Carpool			350	0	0			LEED
PK 75	Alternate Fuel Vehicles			350	0	0			LEED
	Subtotal			28		8,906			
	Circulation			100%		8,906			
	Total Parking			Total		17,812			

Summary/Totals			
TF	Transit Facility Building		5,910
AM	AMTRAK Train Station		18,486
TOD	TOD		0
S	Site Requirements		108,306
PK	Parking		17,812
	Subtotal		150,514
	Stormwater		1,000
	Setbacks		0
	Total, program area		302,028

Notes:

- 1 **Circulation:** Corridors, passages, stairs, vehicle turning radius, or any other necessary space needed for a person or vehicle to move from one location to another
- 2 **Building Factor:** Allowance for all interior and exterior wall components