APPENDIX B

STATION SIZING CALCULATIONS

Appendix B

Station Facility Sizing Requirements - Year 2040

Methodology and Calculations

Station Sizing Methodology

Element	Assumptions	Source
2040 Annual Ridership	Projected 2040 ridership based on 2% compounded annual growth rate.	AECOM ridership forecast, Option 15C, January 13, 2013.
Daily Riders	Daily ridership = Annual ridership / 270	Amtrak's Station Program and Planning – Standard and Guidelines 2008
Peak Hour Two-Way Traffic	Peak hour two-way traffic = daily ridership * 0.15	Amtrak's Station Program and Planning – Standard and Guidelines 2008
Peak Hour One-Way Traffic	Peak hour one-way traffic = peak hour two-way traffic * 0.65	Amtrak's Station Program and Planning – Standard and Guidelines 2008
Waiting Area Square Feet (corridor service)	Waiting area square feet = (peak hour one-way traffic * 50% service-type factor) * (20 SF/seated person) + (peak hour one-way traffic * 50% service-type factor) * (10 SF/ standing passenger) A minimum of 200 square feet was used if formula resulted in a value less than 200.	Amtrak's Station Program and Planning – Standard and Guidelines 2008
Parking Spaces	Initial calculation - For all rural/suburban type stations it was assumed 50% of the daily ridership would need to park at the stations. 25% was used for Des Moines since it is an urban station with local transit. The initial parking requirements were reduced since not all riders would drive alone and the number of persons per vehicle would depend on the type of traveler. Assumptions include: • 60% of the riders are leisure related and 40% of the riders are business related. • Leisure travelers typically have 2.5 persons per vehicle and business travelers typically have 1.2 persons per vehicle.	Based on comparable passenger rail systems in the United States.

Station Facility Sizing Calculations*

Station	2040 Annual Ridership	Daily Riders	Peak Hour Two-Way Traffic	Peak Hour One-Way Traffic	Waiting Area Square Feet	Parking Spaces
Chicago Union Station	Not available					
La Grange Road, IL	Not available					
Naperville, IL	Not available					
Plano, IL	29,371	109	16	11	159	31
Mendota, IL	28,349	105	16	10	154	30
Princeton, IL	114,754	425	64	41	622	122
Geneseo, IL	14,221	53	8	5	77	15
Moline, IL	232,525	861	129	84	1,260	247
Iowa City, IA	214,509	794	119	77	1,162	228
Grinnell, IA	31,595	117	18	11	171	34
Des Moines, IA	383,674	1,421	213	139	2,078	204
Atlantic, IA	31,637	117	18	11	171	34
Council Bluffs, IA	235,488	872	131	85	1,276	250

* Calculations based on station sizing methodology