

Table 9-1 The location of case study projects.

No.	Project	Location
1	General Motors Production Plant	Flint, Michigan, US
2	Coast Guard Facility Planning	Multiple locations
3	Camino Group Medical Building	Mountain View, California, US
4	National Aquatics Center	Beijing, China
5	Federal Office Building	San Francisco, California, US
6	100 11 th Avenue Apartments	New York City, NY, US
7	One Island East Office Tower	Hong Kong, China
8	Penn National Parking Structure	Grantville, PA, US
9	Hillwood Commercial Project	Dallas, TX, US
10	Federal Courthouse	Jackson Mississippi, US

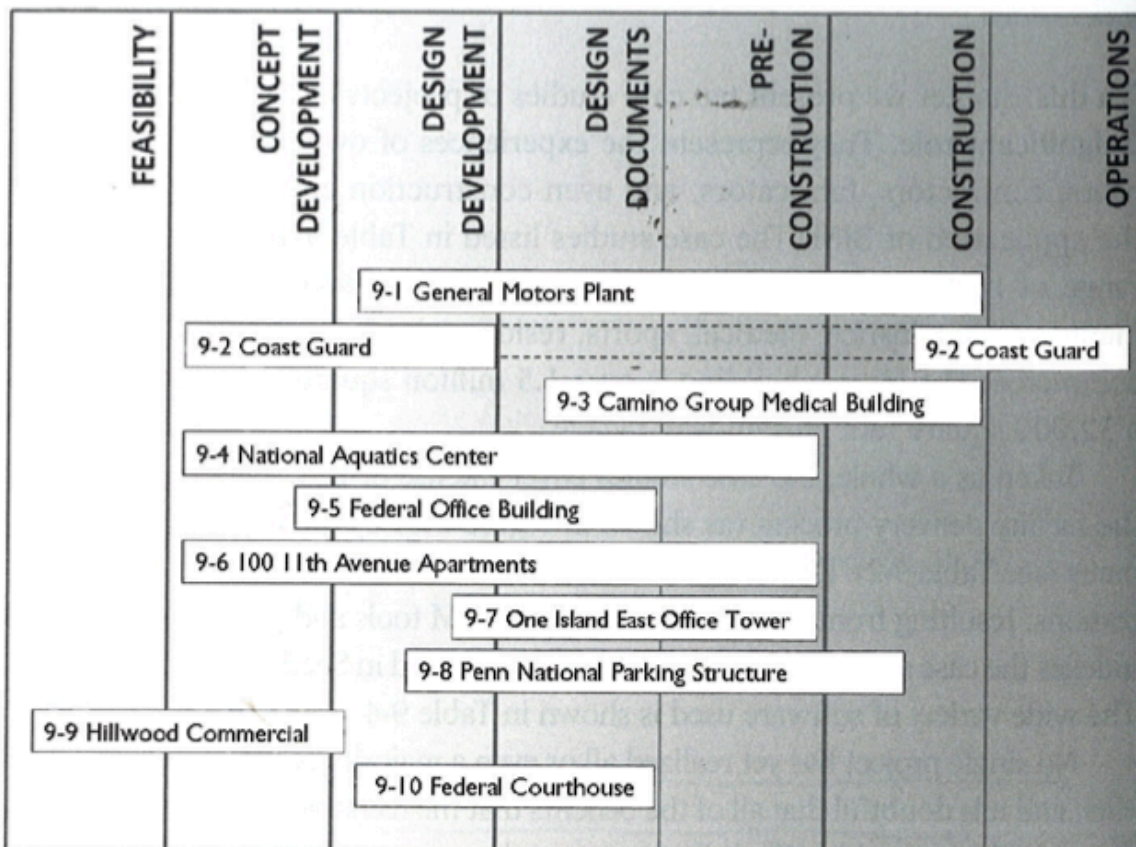


Figure 9-1 Case study guide showing various project phases.

Table 9-2 Participant index for the case studies.

	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	9.10
Participants	General Motors Production Plant	Coast Guard Facility Planning	Camino Group Medical Building	Beijing National Aquatics Center	San Francisco Federal Building	100 11th Avenue NYC	One Island East Office Tower	Penn National Parking Structure	Hillwood Commercial Project	Jackson Federal Courthouse
Owner/developer	•	•	•		•		•		•	•
Architect	•	•		•	•	•	•			•
Engineer	•		•	•	•		•	•		•
Contractor	•		•	•	•		•		•	
Subcontractor/ Fabricator	•		•		•	•	•	•		
Facility Operations/End users	•	•								•

Table 9-3 Benefit checklist for the case studies. The benefits correspond to the list in Section 1.5, Chapter 1.

		9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	9.10
Project Phase	Benefits	General Motors Production Plant	Coast Guide Facility	Camino Group Medical Building	Beijing National Aquatics Center	SF Federal Office Building	100 11th Avenue NYC	One Island East Office Tower	Penn National Parking Structure	Hillwood Commercial Project	Jackson Federal
Feasibility study (Chapter 4)	Support for project scoping, cost estimation		•							•	
Concept design (Chapters 4 and 5)	Scenario planning		•							•	
	Early and accurate visualizations				•		•		•		
	Optimize energy efficiency and sustainability					•					

Table 9-4 Software checklist for the case studies.

Application Area	Software Tool	9.1 General Motors Production Plant	9.2 Coast Guard Facility Planning	9.3 Camino Group Medical Building	9.4 Beijing National Aquatics Center	9.5 SF Federal Office Building	9.6 100 11th Avenue NYC	9.7 One Island East Office Tower	9.8 Penn National Parking Structure	9.9 Hillwood Com- mercial Project	9.10 Jackson Federal Courthouse
Model Generation Tools											
Architecture	ArchiCAD		•								
	Bentley Architecture*	•				•					
	Digital Project						•	•			
	ONUMA Plan- ning System		•								
	Revit Building										•
Structural	Bentley Structural*				•						
	Revit Structures			•							•
	SDS/2	•									
	Tekla Structures					•			•		
MEP	CADDuct			•							
	Design Series	•									
	IntelliCAD	•									
	Piping Designer 3D			•							
	Revit Systems										•
BIM Related Tools											
2D	AutoCAD	•		•		•	•	•	•		•
	SprinkCAD			•							
3D	Architectural Desktop			•							
	3D Studio Max				•						
	FormZ					•					
	Rhino				•		•				
Manu- facturing	CATIA						•				
	Solidworks						•				
Database	MySQL		•								

Table 9-4 Continued

		9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	9.10
		General Motors Production Plant	Coast Guard Facility Planning	Camino Group Medical Building	Beijing National Aquatics Center	SF Federal Office Building	100 11th Avenue NYC	One Island East Office Tower	Penn National Parking Structure	Hillwood Com- mercial Project	Jackson Federal Courthouse
Application Area	Software Tool										
Analysis Tools											
Structural	RAM	•									
	Robot						•				
	STAAD Pro								•		
	Strand				•		•				
Estimating	Dprofiler									•	
	US Cost										•
Clash detection	Navisworks	•		•							•
Energy	EnergyPlus					•					

*Bentley Architecture and Bentley Structures are based on the Microstation Triforma platform