APPENDIX B

Survey Results

Part A: Agency Responsibility Overview

1. The agency is responsible for which project phases of the following road classes.

	Planning	Design	Construction	Maintenance	Operations
Interstate	**2**	**2**	**2**	**2**	**2**
NHS	**5**	**6**	**6**	**6**	**6**
State	**4**	**8**	**7**	**5**	**5**
Local	**17**	**19**	**17**	**15**	**14**
Other	**0**	**1**	**0**	**0**	**0**

2. The roadway design is primarily done by
    - Agency personnel, **1**
    - State DOT personnel, **1**
    - Consultants managed by agency, **15**
    - Consultants managed by others, **1**
    - Other, **1**: Agency personnel and consultants managed by agency

3. In designing roadways, the agency uses the following design documents:
    - Design guidelines, **4**
    - Design standards, **13**
    - Design practices based on other research/guidelines, **0**
    - Other, **2**:
        i. Combination of design standards and guidelines
        ii. Combination of AASHTO guidelines

4. The urban design documents used by the agency are
    - Those of the state DOT, **1**
    - The *Green Book*, **2**
    - Agency developed documents based on those of the state, **1**
    - Agency developed documents based on the *Green Book*, **6**
    - Agency documents developed based on other research/guidelines, **5**
    - Other, **4**:
        i. State DOT, *Green Book*, local standards
        ii. APWA Specifications and Criteria
        iii. c and d— Agency developed documents based on those of the state and Agency developed documents based on the *Green Book*
        iv. *Green Book* and other research guidelines

5. The design guidelines used by your agency provide adequate flexibility (without design exceptions) to meet the transportation and community needs of the urban environment.
    - Yes, **13**
    - No, **6**

6. A copy of the design standards/guidelines is available
    - By mail, **4**
    - Online, **12**
    - Electronically, **3**

Part B: Need for Design Variances

7. The typical constraints within your urban area that require flexibility or design exceptions include

	Always	Frequently	Occasionally	Never
Right-of-way (ROW)	**2**	**7**	**6**	**0**
Capacity	**0**	**7**	**7**	**1**
Horizontal alignment	**0**	**5**	**9**	**1**
Vertical alignment	**0**	**6**	**8**	**1**
Natural environment	**0**	**5**	**10**	**0**
Human/social environment	**0**	**5**	**10**	**0**
Pedestrians	**2**	**5**	**8**	**0**
Bicyclists	**1**	**5**	**9**	**0**
Transit	**1**	**4**	**9**	**1**
Other	**0**	**2**	**5**	**8**

4 did not give responses to this question

8. Design flexibility is typically considered for the following reasons

	Always	Frequently	Occasionally	Never
Safety	**3**	**4**	**5**	**3**
Cost	**2**	**6**	**6**	**1**
Operational	**1**	**6**	**7**	**1**
Natural environment	**1**	**4**	**9**	**1**
Human/social environment	**1**	**3**	**10**	**1**
ROW impacts	**2**	**5**	**6**	**2**
Aesthetic	**1**	**3**	**10**	**1**
Pedestrian accommodations	**3**	**4**	**8**	**0**
Bicycle facilities	**2**	**3**	**10**	**0**
Transit	**1**	**4**	**9**	**1**
Clear zone	**1**	**2**	**10**	**2**
Other	**0**	**1**	**6**	**8**

4 did not give responses to this question

9. The typical design elements that your agency modifies to deliver projects include

	Always	Frequently	Occasionally	Never
Design speed	**1**	**3**	**8**	**3**
Lane width	**1**	**8**	**5**	**1**
Shoulder width	**1**	**5**	**7**	**2**
Bridge width	**1**	**1**	**7**	**6**

Structural capacity	**0**	**2**	**5**	**8**
Horizontal alignment	**1**	**4**	**8**	**2**
Vertical alignment	**1**	**4**	**8**	**2**
Grade	**2**	**3**	**9**	**1**
Stopping sight distance	**2**	**1**	**5**	**7**
Cross slope	**0**	**4**	**10**	**1**
Superelevation	**0**	**2**	**8**	**5**
Vertical clearance	**1**	**1**	**7**	**6**
Horizontal clearance (other than clear zone)	**1**	**2**	**10**	**2**
Clear zone	**0**	**5**	**4**	**6**
Operational capacity	**1**	**3**	**9**	**2**
Other	**0**	**1**	**6**	**8**

4 did not give responses to this question

Part C: Design Exceptions

10. The agency considers design exceptions for projects that may not conform to the applicable design documents.
    - Yes, **12**
    - No, **0**
    - No response, **7**

11. The agency considers design exceptions for ALL types of projects.
    - Yes, **6**
    - No, **6**
    - No response, **7**

12. List any project types to which this does NOT apply
    - Reconstruction of a roadway segment within existing ROW, **4**
    - Using a curb and gutter design to reduce ROW requirements, **4**
    - Intersection improvements, **6**
    - Modifying design elements to address pedestrian issues, **6**
    - Modifying design elements to address bicyclist access, **5**
    - Altering or lowering design speed, **6**
    - Using traffic calming devices, **7**
    - New roadway construction, **4**
    - Preventive maintenance, **6**
    - Other, **1** (did not specify)
    - No response, **7**

13. The design exception documentation policy used by your agency uses only the 13 controlling criteria identified by FHWA in design exceptions.
    - Yes, **6**
    - No, **6**
    - No response, **7**

14. The agency uses the following criteria in design exceptions.
    - Design speed, **8**
    - Lane width, **10**
    - Shoulder width, **8**
    - Bridge width, **5**
    - Structural capacity, **3**
    - Horizontal alignment, **4**
    - Vertical alignment, **7**
    - Grade, **8**
    - Stopping sight distance, **5**
    - Cross slope, **8**
    - Superelevation, **5**
    - Vertical clearance, **7**
    - Horizontal clearance (other than clear zone), **6**
    - Clear zone, **5**
    - Operational capacity, **7**
    - Other, **0**
    - No response, **7**

15. In relation to the *Green Book* criteria, the design values used to require design exceptions are
    - The same, **5**
    - More strict, **1**
    - Less strict, **6**
    - No response, **7**

16. The design exception documentation for a project is typically prepared by the
    - Agency staff responsible for the design, **4**
    - Agency staff supervising the design, **4**
    - Consulting firm responsible for the design, **4**
    - No response, **7**

17. Design exceptions are typically submitted during
    - Planning, **2**
    - Projection initiation, **0**
    - Environmental permits, **0**
    - Preliminary design, **7**
    - 60% design, **3**
    - Final design, **0**
    - Plan and specifications/cost estimates, **0**
    - No response, **7**

18. The typical time for preparing a design exception document is
    - <1 month, **3**
    - 1–2 months, **5**
    - 2–6 months, **2**
    - More than 6 months, **2**
    - No response, **7**

19. The agency collects and uses the following data for inclusion in design exceptions

	Always	Frequently	Occasionally	Never
Crash history	**3**	**3**	**4**	**2**
Crash severity	**3**	**2**	**5**	**2**
Traffic volume data	**4**	**7**	**1**	**0**
Cost estimates	**2**	**7**	**3**	**0**
Crash trends	**1**	**3**	**7**	**1**
Crash modification factors	**0**	**3**	**6**	**3**
Before/after studies	**0**	**2**	**7**	**3**
Cost/benefit analysis	**0**	**4**	**6**	**2**
Prior examples	**0**	**8**	**4**	**0**
Project history	**1**	**4**	**5**	**2**
Other	**1**	**2**	**2**	**7**

7 did not give responses to this question

20. For design exceptions to be approved, the application is reviewed by the
    - Agency's legal office, **2**
    - Agency's design exception committee, **4**
    - Agency's design team/group, **8**
    - DOT's legal office, **1**
    - DOT's design exception committee, **2**
    - DOT's design team/group, **2**
    - FHWA, **2**
    - Other, **1**: The Planning Department is also consulted and submission to City Council for a Resolution
    - No response, **7**

21. The typical time for review/approval of a design exception document is
    - <3 months, **6**
    - 3–6 months, **4**
    - 6–9 months, **1**
    - More than 9 months, **1**
    - No response, **7**

22. The approval rate for design exceptions is typically
    - 0%–25%, **3**
    - 26%–50%, **2**
    - 51%–75%, **4**
    - More than 75%, **3**
    - No response, **7**

23. The agency prepares and processes approximately how many design exceptions in a typical year
    - <5, **6**
    - 5–10, **0**
    - 11–20, **2**
    - 21–50, **2**
    - >50, **2**
    - No response, **7**

24. In the event that the design exception was not approved, the agency typically
    - Negotiates a solution, **3**
    - Resubmits the application, **1**
    - Redesigns the project, **8**
    - Proceeds with design without approval, **0**
    - Other, **0**
    - No response, **7**

Part D: Agency Streamlining Efforts

25. The agency has conducted a review of design practices to determine their impact on the project development process.
    - Yes, **4**
    - No, **7**
    - No response, **8**

26. List potential results of preparing design exceptions.

	Increased	Decreased	No change	N/A
Project delivery time	**5**	**2**	**4**	**0**
Project costs	**3**	**6**	**2**	**0**
Potential liability exposure	**6**	**0**	**5**	**0**
Other	**1**	**0**	**2**	**8**

8 did not give responses to this question

27. List potential impacts of preparing design exceptions.

	Improved	Deteriorated	No change	N/A
Safety	**4**	**2**	**4**	**1**
Operational performance	**3**	**3**	**3**	**2**
Modal alternatives	**2**	**0**	**5**	**4**
Other	**1**	**0**	**1**	**9**

8 did not give responses to this question

28. List the processes and/or efforts that your agency has initiated for timely resolution of design exceptions.
    - Improved guidance, **6**
    - Clarification of controlling criteria, **6**
    - Training of staff, **5**
    - Uniform document format, **3**
    - Checklist of documents, **4**
    - Other, **3**:
        i. Very limited requests show no need for policies
        ii. Monthly meeting of committee
        iii. Electronic plan submittal and approval
    - No response, **8**

29. Once a design exception is granted for flexible practice, the agency uses it as a precedent for future projects.
    - Yes, **2**
    - No, **9**
    - No response, **8**

30. The agency reviews projects after completion to determine their effects of the design exceptions on

	Yes	No
Safety	**6**	**5**
Operation	**7**	**4**
Other	**3**	**8**

8 did not give responses to this question

31. The agency discusses design exceptions at public meetings.
    - Yes, **7**
    - No, **4**
    - No response, **8**

32. The design exception policy used by your agency provides adequate flexibility to grant a variance when needed.
    - Yes, **9**
    - No, **2**
    - No response, **8**

33. The design exception policy used by your agency requires
    - The appropriate amount of information, **9**
    - Too much information, **0**
    - Too little information, **2**
    - No response, **8**

34. Provide a list of any problems you have experienced with the design exception process.
    - None, **2**
    - N/A, **2**
    - No response, **9**
    - Right-of-way, horizontal alignment, vertical alignment
    - Design exceptions are used so infrequently that we are not aware of any problems
    - Request not being submitted early in the design process
    - No participation by other agencies affected especially those agencies who must maintain roadways. No community outreach/dialogue to potentially affected communities. Minimal dialogue re: legal ramifications.
    - Sometimes the applicant needs to provide more information so it delays the determination one month
    - The design exceptions also have to adopt special maintenance regimes for the life of the facility

35. Provide a list of any improvements that you feel could be made to simplify the design exception process
    - None, **2**
    - N/A, **3**
    - No response, **9**
    - Streamlining legal process
    - In the past year, we have improved our guidance which has simplified the process
    - Preparation of written documentation for process to be distributed to agency staff and design consultants
    - Make a list of criteria that needs to be submitted for the exception
    - This exception process should not be simplified since the public's safety needs to be satisfied

36. Provide a list of lessons learned from the design process as currently applied by your agency.
    - None, **1**
    - N/A, **3**
    - No response, **9**
    - Being effective in dealing with political realities
    - We have emphasized that design exceptions should be requested as early as possible in the design process
    - Early consideration in planning and preliminary design process. Early assessment of environmental and other existing conditions that may necessitate exceptions.
    - Once started on this path then every one wants an exception
    - Need to follow-up to determine impact
    - My agency has infrequent and almost no exceptions. If the exceptions are not met the facilities are deemed to be private ones.

Part E: Case Identification

37. Provide a specific example where a variance was granted.
    - None, **1**
    - N/A, **3**
    - No response, **11**
    - Name: Route 734
      Design exception justification: Reduce shoulder width to lessen environmental and ROW impacts
      Reasons for success: Driver expectations will not be compromised
      Lessons learned: investigate impacts to environmental and right-of-way early
    - Name: Kuhio Avenue improvements project
      Design exception justification: Lane width narrowing
      Reasons for success: tradeoff between wider pedestrian sidewalks, pedestrian safety issues vs. narrower lane widths
      Lessons learned:
    - Name: E. 4th Street Improvement
      Design exception justification: lane narrowing
      Reasons for success: reduced traffic on roadway
      Lessons learned: need to coordinate with proper safety agencies

- Name: New Road Design
  Design exception justification: Grade of street greater 14%
  Reasons for success: The streets were concrete streets.
  Lessons learned: Maintenance equipment cannot operate on an asphalt surface at this grade.

38. Provide a specific example where a variance was NOT granted.
    - None, **1**
    - N/A, **4**
    - No response, **11**
    - Name: Traffic calming measures various streets
      Design exception justification: slow speeds along certain segments of existing streets
      Reasons for denial: community opposition
      Lessons learned: Clear communication and early dialogue with community and City Council is essential
    - Name: Detroit Ave. Streetscape
      Design exception justification: Average daily traffic justified 2 lanes instead of 4
      Reasons for denial: need to maintain minimum lane widths to accommodate 4 lanes in the future
      Lessons learned: Negotiation period took far too long and costs increased as a result
    - Name: many projects