

## Work Scope – Street Light Visibility Standard

### Process Tasks and Purpose

#### Task 1a: Select a Representative Block for Each Lighting District

**Purpose:** Public Works and consultant will recommend three lighting districts, residential, pedestrian, and the Central Business District (CBD). These areas have different lighting needs. The CBD requires more intense lighting levels than pedestrian or residential areas, and pedestrian areas require more intense lighting than residential areas. The fixture used in one of the districts may not be appropriate in the other districts. Selecting a representative block in each district will assist in determining a baseline and future field conditions.

#### Task 1b: Determine Characteristics/Criteria to Change in the Modeled Scenarios

**Purpose:** The purpose is to determine what kind of lighting is best for most individuals. Lighting can have different effects by changing the mounting height, wattage, spacing, etc... This task will determine the characteristics that should be modeled and evaluated. Modeling different scenarios is a more cost effective way to test individuals' perception of different lighting.

**Product:** A list of characteristics/criteria for modeling purposes.

#### Task 1c: Select a Jury to Review the Lighting Conditions

**Purpose:** A group of non-biased individuals, of varying demographics, will be needed to provide preference feedback on the lighting conditions. Individuals have different lighting needs based on age and task performance.

**Product:** A group of non-biased individuals with different needs and concerns to evaluate current and future lighting systems.

#### Task 2: Develop Model of Baseline Street Lighting Conditions

**Purpose:** A model of the baseline conditions for the three baseline blocks (Task 1a) will be developed to demonstrate the comparison between modeled and real conditions.

**Product:** A calibrated model illustrating the baseline, or current, lighting conditions.

#### Task 3: Jury Review of Existing Street Lighting Field Conditions

**Purpose:** The jury will need to review the baseline lighting field conditions to give feedback on what works and what doesn't with the existing system. This task may provide direction on additional characteristics to model.

**Task 4a: Jury Reviews Modeling of Existing Street Lighting Conditions**

**Purpose:** The jury will need to review the baseline model of the existing conditions to insure that the model is calibrated to represent the existing conditions.

**Product:** Information on what characteristics to change in lighting design or model.

**Task 4b: Jury Feedback Regarding Modeled Existing Conditions**

**Purpose:** The jury will provide comment on how the model compares to the conditions in the field. If the model is different from the field conditions, the model will need to be adjusted to more accurately represent real conditions. Task 4 will need to be repeated, until adjustments are no longer necessary.

**Product:** Information on how the model compares to actual conditions.

**Task 5: Develop Models of Different Scenarios**

**Purpose:** Once the model of the existing conditions is refined, different models can be created to demonstrate the lighting conditions when characteristics are altered.

**Task 6a: Jury Review of Modeled Scenarios**

**Purpose:** The jury will review the modeled scenarios to determine the differences created when the characteristics are altered.

**Task 6b: Jury Feedback Regarding Modeled Scenarios**

**Purpose:** The jury can provide feedback on what modeled scenario is the preferred choice of the group, and a ranking of the remaining scenarios.

**Product:** Information on how characteristics that were changed contribute to a better lighting design.

**Task 7: Field Changes Made to Test Preferred Model**

**Purpose:** Public Works can make alterations in the field based on the preferred model to be tested in Task 8.

**Task 8a: Jury Review of Modified Field Conditions**

**Purpose:** The jury will review the modifications in the field to determine if the new conditions meet the preferred model scenario/requirements (Task 6).

**Task 8b: Jury Feedback Regarding Field Changes**

**Purpose:** The jury would provide feedback based on the field changes. If the changes in the field do not reflect what was indicated in the model, the field conditions may need to be changed, or another scenario may need to be field tested. This would result in repeating Task 8.

**Product:** Information on how well the model correlated to field conditions.

**Task 9: Public Works Drafts Specifications for Fixture Performance**

**Purpose:** Public Works and consultant will review the jury's preference, as it relates to the other specifications currently used. Public Works will need to draft new specifications for fixture performance based on current standards and the results from the jury.

**Product:** A new specification and performance measures for street lighting. Methods and recommendations will be provided for the City to evaluate potential vendor products (now and future) regarding their performance, functionality, aesthetics, etc.

**Task 10: Material Procurement**

**Purpose:** Materials will be procured. Public Works will review things such as the cost to procure and the cost to operate and maintain.

The timeframe for the work scope to be completed follows.

<b>Time Frame</b>	<b>Task</b>
February/March 2005	Task 1a, Task 1b, Task 1c
March 2005	Task 2
April 2005	Task 3, Task 4a, Task 4b
April 2005	Task 5 (this task may be started earlier)
Late April 2005	Task 6a, Task 6b
May 2005	Task 7
May 2005	Task 8a, Task 8b
June/July 2005	Task 9, Task 10