A second principle of contrast is that of dominance, where one contrasting element commands visual attention over the others. That element becomes the dominant feature and the others become the supporting background. A dominant theme is often essential in creating a pleasing aesthetic experience. *The black light poles, black traffic signal poles, and black signal faces at this suburban intersection sharply contrast the light blue sky and light gray pavement, thus becoming a dominant visual feature in the corridor.*

Union Center Boulevard, Butler County

Unity

Unity provides the observer with a sense of wholeness. This is generated by a central or dominating perception in the composition. It encompasses the perfect application of all the other qualities, and it refers to the combined effects of all other aesthetic qualities applied simultaneously. Unity is the condition, or state, of full resolution of the site and project functions. It implies harmony where all the elements are in accord, thus producing an undivided total effect. *The combined visual effects of structural and landscaping treatments in this highway interchange provide a unified appearance.*

I-75 / Austin Boulevard, Montgomery County

4.5 AESTHETIC PERCEPTION ON THE HIGHWAY

Before making specific aesthetic design decisions, a project designer must understand and consider the limitations and abilities of the eye. The relevant principles of vision in motion are:

- *Seeing takes time.* It takes about a second to change focus from seeing the speedometer on the dashboard to seeing detail on the road ahead. This time is significant, because at 60 miles per hour the observer is moving at 88 feet per second. Nearby objects move across the field of view very rapidly and may be missed in the interval between one glance and the next.

- *As speed increases, concentration increases.* As speed increases, the number of things to be seen and attended to increases proportionately. It becomes increasingly dangerous to observe irrelevant objects and concentration becomes fixed on the approaching ribbon of road.

- *As speed increases, the point of concentration recedes.* The eyes are feeling their way ahead of the wheels; the focus point at 25 mph lies approximately 600 feet ahead on the road. This distance increases as speed increases. At 45 mph, the fixation point lies some 1,200 feet ahead; at 65 mph, it is as far as 2,000 feet ahead.

- *As speed increases, peripheral vision diminishes.* At 25 mph, the eye encompasses a total horizontal angle of about 100 degrees. This is referred to as the cone of vision. At 45 mph, this narrows down to about 65 degrees; above 60 mph, the angle is less than 40 degrees. This restriction is called "tunnel vision."

- *As speed increases, foreground detail begins to fade.* At higher speeds, nearby objects move across the field of view very quickly. Since rapidly moving objects cannot be perceived separately, the driver does not clearly discern them, except at some distance. Objects at medium distances are seen only for a short time. Only distant objects, the sky or horizon, have any permanence and can be clearly understood.

The net effect of these characteristics is that the highway itself and its immediate surroundings generally exert the strongest influence on the aesthetic impression. With regard to the surroundings, only grand views - a major building or large natural feature - will be clearly seen and understood. Similarly, within the highway corridor, it is only the larger elements that will be clearly seen. Features less than six inches in size will be barely visible to drivers, if they are seen at all.

4.6 AESTHETIC DESIGN HIERARCHY

Principal Factors

As might be expected, there is no single design parameter that controls the physical characteristics of a project. An attractive project has the orchestration of design parameters employed simultaneously to complement each other. However, some elements will have more influence than others on the final result. Because of the influence of motion on perception, it is generally the larger elements and their shapes, forms, proportions and other characteristics that will be the principal factors. These principal aesthetic design factors can be the visual basis upon which the balance of the appearance is built. Designers can concentrate on developing the best design solutions for these parameters prior to considering other visual treatments. To find the best design solution, they can consider previously-established aesthetic objectives when making decisions regarding these design parameters.

Secondary Factors

Secondary aesthetic design factors can be used to accentuate positive qualities that have been created by the principal aesthetic design factors. Details, texture and color can be engaged to draw attention to, or to detract from, the role of structural elements. When considering the secondary aesthetic design factors, designers can consider the aesthetic qualities previously defined.

4.7 AESTHETIC DESIGN OBJECTIVES

There are many approaches to aesthetic quality. Given the difficulty of the driving task and the paramount need for safety, aesthetic objectives should aim for clarity, balance, simplicity, harmony, and a sense that the environment is satisfying expectations. Designers can have visual objectives for the projects they design, just as they have objectives for safety, economy, or