



# Building a Foundation for Meaningful and Active Participation

I-70 EAST PROJECT, DENVER AREA, COLORADO

## Case Highlights

**Description:** The construction of Interstate (I)-70 near Denver, Colorado, in the 1960s, and the resulting split of predominantly minority and low-income surrounding neighborhoods, left a legacy of distrust for the Colorado Department of Transportation (CDOT). When CDOT set out to improve the I-70 East corridor in 2003, they knew they had to work proactively and collaboratively with these same communities to build their trust and ensure their active and meaningful participation in the environmental study. The outreach conducted for the project set new ground for the CDOT. The emphasis of the outreach process was on gaining maximum participation from the local communities. This also meant educating the communities about technical areas such as noise and transportation design and how they affect lives. The case also included an extensive air-quality analysis, analysis of health-related impacts, and the evaluation of a community-based alternative.

**Key Concepts:** Effective practices in addressing environmental justice include: fully addressing impact-areas of concern to environmental justice communities (in this case air-quality and health-related impacts), the evaluation of a community-based alternative, and extensive public outreach conducted to build trust and create a truly inclusive process.

# Building a Foundation for Meaningful and Active Participation

## I-70 EAST PROJECT, DENVER AREA, COLORADO

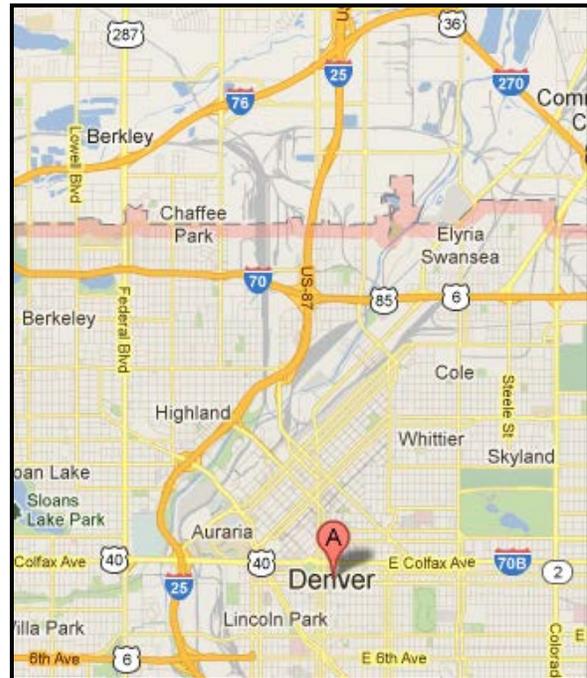
### Introduction

The construction of Interstate (I) 70 near Denver, Colorado, in the 1960s, and the resulting split of predominantly minority and low-income surrounding neighborhoods, left a legacy of distrust for the Colorado Department of Transportation (CDOT). When CDOT set out to improve the I-70 East corridor in 2003, they knew they had to work proactively and collaboratively with these same communities to build their trust and ensure their active and meaningful participation in the environmental study. The public-outreach process conducted for I-70 East resulted in meaningful participation from environmental justice communities and helped to re-build trust in CDOT.

### Project Context

I-70 and I-25 are main thoroughfares in the Denver, Colorado, metropolitan area, intersecting just north of the city (see Figure 1). Planning for the initial construction of I-70 started nearly 60 years ago. During the development of I-25, it was recommended that Denver's major east-west thoroughfare be located along 46<sup>th</sup> Avenue, east of I-25 and along 48<sup>th</sup> Avenue west of I-25. In 1947, Denver formally requested that the 46<sup>th</sup>/48<sup>th</sup> Avenue corridor be designated as a State highway from Sheridan Boulevard to Colorado Boulevard. Detailed studies and design efforts continued in the 1950s and 1960s, with I-70 construction completed in 1964.

In July 2003, CDOT and Denver's Regional Transportation District (RTD) began a joint



study for the I-70 East Corridor Environmental

*Figure 1. I-70 East project region in Denver, CO.*

Impact Statement (EIS). An overview of the environmental study process is shown in Figure 2.

The need for this project resulted from: increased transportation demand, limited transportation capacity, safety concerns, and transportation infrastructure deficiencies. The purpose of the project was to improve transportation along the I-70 corridor from I-25 to Tower Road and explore potential rapid transit options from downtown Denver to Denver International Airport.

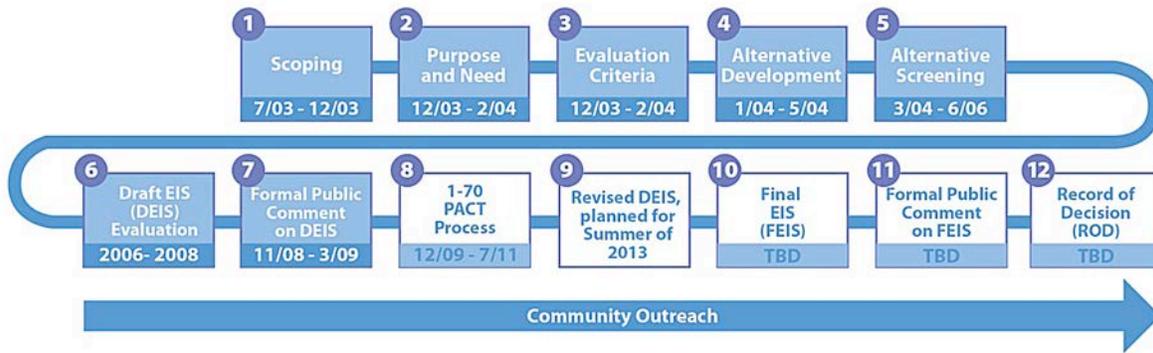


Figure 2. Overview of the I-70 East Corridor Environmental Impact Statement Process.

The project limits extend approximately 17 miles along I-70 between I-25 and Tower Road. The project area encompasses established neighborhoods on the west end of the corridor and emerging residential and commercial areas on the east. It includes portions of Denver, Commerce City, Aurora, Adams County, and several Denver neighborhoods, including Globeville, Five Points, Elyria and Swansea, Cole, Clayton, Northeast Park Hill, Stapleton, Montbello, Green Valley Ranch, and Gateway (see Figure 3).

In June 2006, the highway and transit elements of the I-70 East Corridor EIS were separated into two independent projects, reflecting that they serve different travel markets, are located in different corridors, and have different funding sources. The intent of the I-70 East study is to identify highway improvements along I-70 between I-25 and Tower Road that would improve safety, access, and mobility, and address congestion. The transit study, the East Corridor EIS, is focusing on transit improvements between downtown Denver and Denver International Airport. The transit project would also affect the same study area affected by the highway project.

The draft EIS was made available to the public for comment from November 14, 2008, to March 31, 2009. As of June 2012, a recirculated draft EIS was being considered to study additional alternatives in greater detail and obtain public input.

### The Region and the Community

#### Demographics

CDOT used 2000 Census data to identify minority and low-income populations in the project study area. The study area consisted of 65 block groups in Denver, Aurora, and Commerce City. More than 77 percent of the study-area residents were minorities (see Figure 4). Among the 63 block groups in the study area with non-zero populations, all had a minority population percentage greater than Colorado (25.5 percent) and the Denver Primary Metropolitan Statistical Area (PMSA) (29.6 percent). Approximately 40 percent of the residents in the study area were Hispanic/Latino and 30 percent were Black/African American, with approximately 5 percent representing other minority populations.

Data on income were available for 62 of the block groups in the study area. Among these block groups, 45 had a percentage of low-income

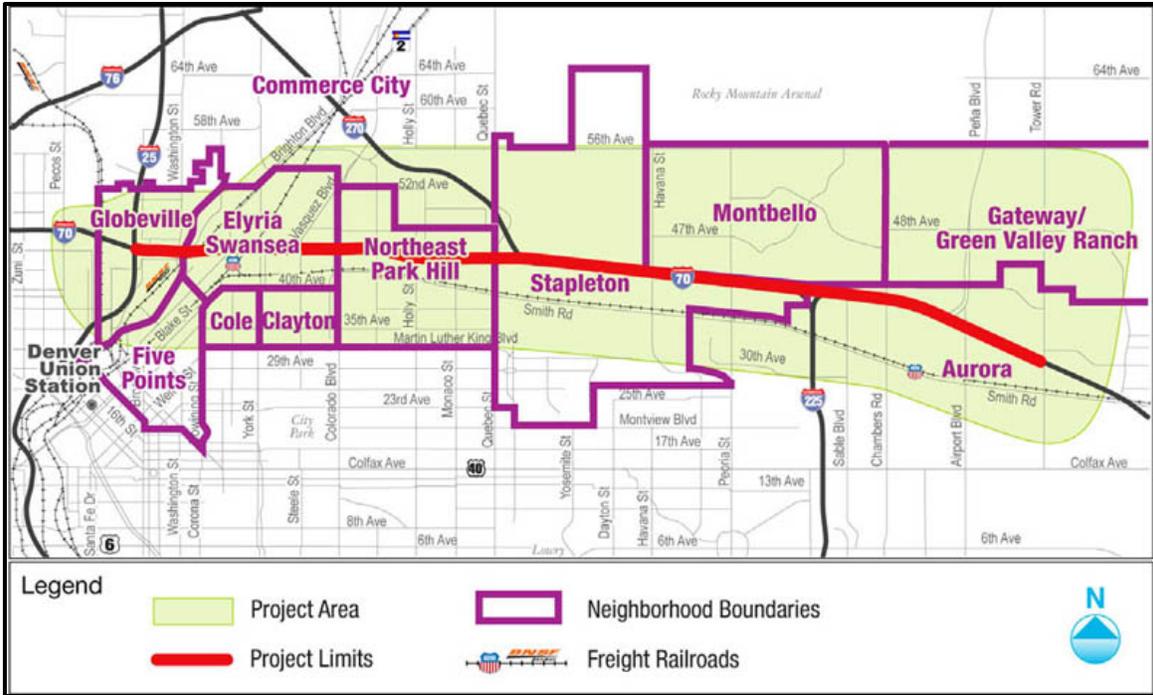


Figure 3. Neighborhoods making up the I-70 East project area.

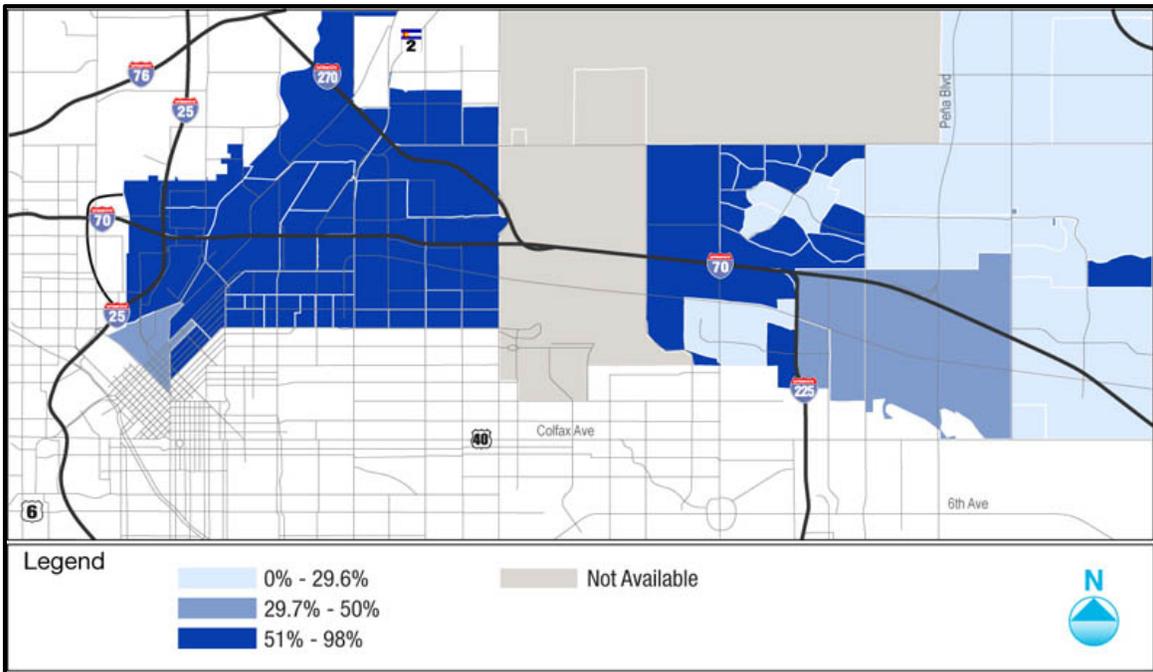


Figure 4. 2000 Census data on minority population in the I-70 East project area.

households that exceeds the State average (14.8 percent), and 50 had a percentage of low-income households that exceeds the PMSA average (14.6 percent). Overall, about 21.2 percent of the households in the study area were low income.

#### *Land Use*

When I-70 was constructed in the 1960s, several neighborhoods were divided. The largely minority neighborhoods of Elyria and Swansea were most adversely affected at the time. The history of industrial use in the Elyria and Swansea neighborhood has had lasting effects. Present-day Elyria and Swansea is composed of residential enclaves surrounded by large areas of industrially zoned land. Small sections of well-maintained single-family homes are interspersed with larger areas of commercial and industrial development, areas with heavy truck traffic. In addition, one of the long-standing neighborhood issues in Elyria and Swansea is the presence of a large number of salvage yards and landfills, primarily related to auto parts recycling businesses. Eighty-three percent of the residents in Elyria and Swansea were Hispanic/Latino, 5 percent were Black/African American, and 31.5 percent were identified as low income.

Community cohesion was disrupted by the presence of I-70, which bisects the neighborhoods, the interspersed industrial uses and residential areas, and the railroad lines and spurs (including the Union Pacific Railroad which runs directly between residential areas) that interrupt direct street access between major thoroughfares and destination points.

Another low-income and minority neighborhood that was bisected by highway construction is Globeville. Globeville is located in the northwest part of the project area. The construction of I-25 and I-70 left Globeville

somewhat isolated from the rest of Denver and bisected the community. This split left only two local roads, Lincoln and Washington Streets, open to north-south vehicular traffic. At present, Globeville is described as a residential island surrounded by industry. Seventy-seven percent of the residents in Globeville were Hispanic/Latino, 3 percent were Black/African American, and 34.2 percent were identified as low income.

Given the history and location of industrial uses and the presence of a major freeway (I-70) in proximity to these residential neighborhoods, these populations are considered disadvantaged. Many of these industries are non-conforming land uses that are difficult to relocate. Therefore, these neighborhoods continue to bear the burden of cumulative impacts resulting from various types of industrial and transportation uses.

#### **What Happened**

A unique approach to working with the public was used throughout the I-70 East environmental study, and is depicted in Figure 5. That approach was developed through the scoping process and was a part of every aspect of the study, from identifying alternatives to analyzing impacts and mitigation strategies. Particular tools and strategies incorporated in the public outreach approach are described in detail in the section on Effective Practices and Lessons Learned. How the information gathered was used in each part of the NEPA process is explained here.

#### **Scoping Process**

The public scoping process began with an analysis of the neighborhoods and businesses within the project area in an effort to develop a logical community-outreach boundary (see Figure 6). Based on available information about

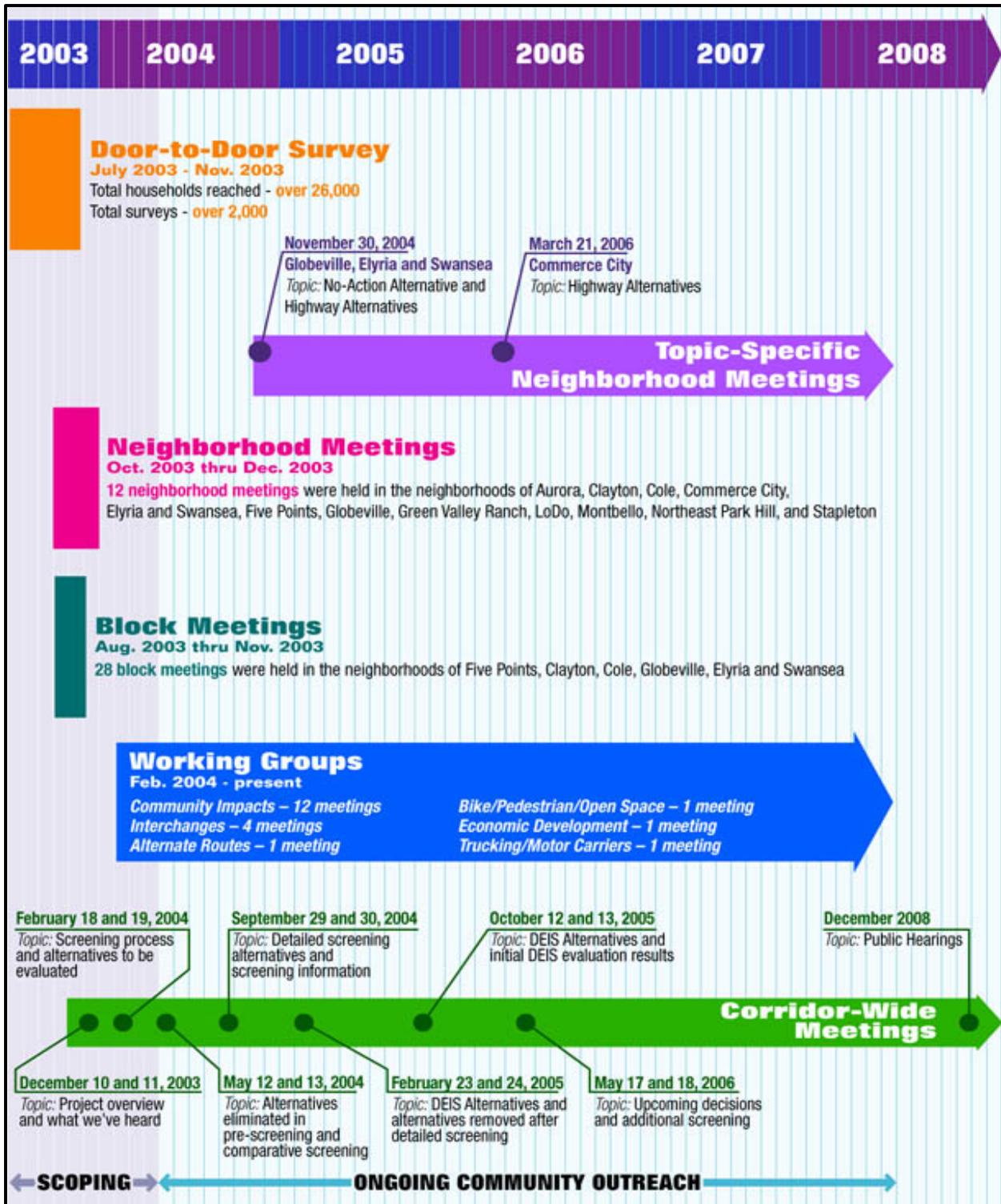


Figure 5. I-70 East project community-outreach activities and timeline.

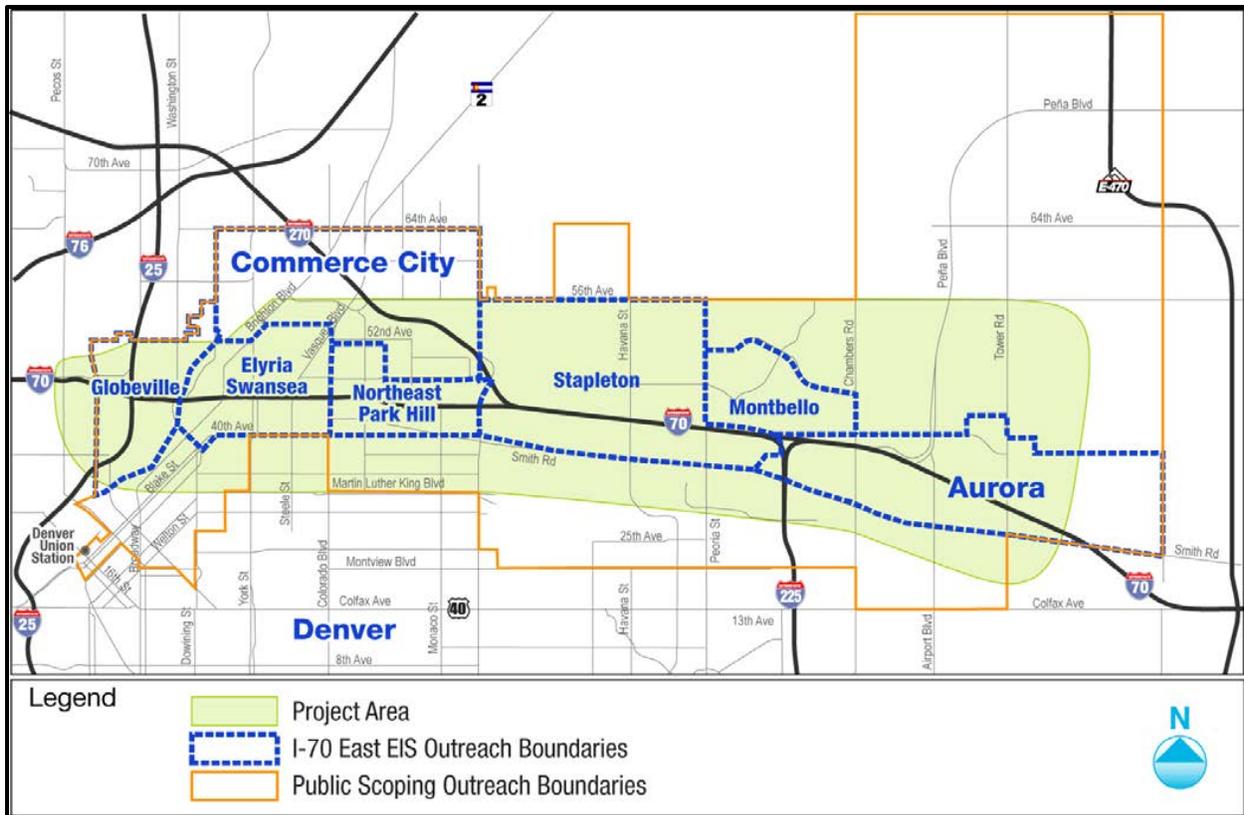


Figure 6. I-70 East project public-outreach boundaries.

the demographic make-up of the corridor and familiarity with communities and neighborhoods in the corridor, specific outreach programs were designed to reach Hispanic/Latino and Black/African American populations and neighborhoods. A comprehensive public-scoping process was developed that ensured every neighborhood within the project area would have ample opportunities to provide input to the study. Several techniques were used during the public scoping process conducted from July to December 2003, including door-to-door outreach to more than 26,000 households, followed by 28 block meetings, 12 neighborhood meetings, eight business meetings, 12 stakeholder meetings, and 2 corridor-wide meetings (see Effective Practices and Lessons Learned for more details on these meetings). Total attendance at the public scoping

meetings exceeded 1,000, with an overwhelming participation by the environmental justice populations.

The project team also conducted several driving/walking surveys and collected data from area residents as part of the public-outreach process. During this outreach process, the project team identified specific neighborhood features, properties of interest, information on the social organization of the community, and perceptions of existing neighborhood transportation problems.

Issues of concern identified by the public in the scoping process included health and safety, availability of funding for construction, toll roads, noise, congestion, bus routes, alternate routes, environmental justice, construction

timing and impacts, interchanges, accommodating growth and local plans, and drainage on highways and existing bridges.

The results of the public- and agency-scoping processes helped CDOT and RTD define the corridor purpose and need as well as understand the values expressed by residents and employees within the corridor. Nine major project goals were established related to providing reasonable access to transportation facilities: (1) providing realistic capacity expansion; (2) supporting community plans; (3) avoiding, minimizing, and mitigating adverse effects on neighborhoods and the natural, social, and cultural environment; (4) providing a cost-effective and implementable transportation solution; (5) addressing deteriorating infrastructure; (6) enhancing mobility; (7) addressing safety needs and upgrading to current safety standards; and (8) providing a secure transportation system. The ninth objective of the project specifically called out minimizing adverse effects on minority and low-income populations.

### **Identification of Alternatives**

Initially, alternatives considered included those identified through previous studies as well as new concepts developed by the project team.

The results of a comparative screening evaluation defined the alignments, lane types, and local system improvements that would be studied further as part of detailed screening. The results of the initial and comparative screening were approved by the agency committees in April 2004 and presented to the public in May 2004 at corridor-wide meetings (see Figure 7).

The initial draft EIS examined four build alternatives that ranged from building general-purpose lanes on the existing alignment, tolled

### **Public-Involvement Protocols**

Prior to beginning the community-outreach process, individual community leaders, stakeholders, advocates, and activists provided input that allowed the study team to gain a practical overview of neighborhood concerns and sensitivities.

The input collected during public-scoping meetings as well as during one-on-one conversations with project team members produced several recommended procedures that served as the foundation of overall public-involvement protocols, including:

- Providing food and child care at public meetings to make them more accessible
- Placing meeting announcements in church bulletins and attending church services to address their congregations
- Providing a translator at all public meetings
- Having the working-group members define topics for the sessions
- Providing a comment period at the beginning and end of every committee meeting
- Adding three health experts to the Air Quality Compliance Committee

express lanes on the existing alignment, general-purpose lanes on realignment, and tolled express lanes on realignment. Different horizontal and vertical shifts and cross sections were considered.

Environmental justice and community concerns were considered throughout the development of alternatives. Community input during the alternative-development process led to the identification of the realignment alternatives

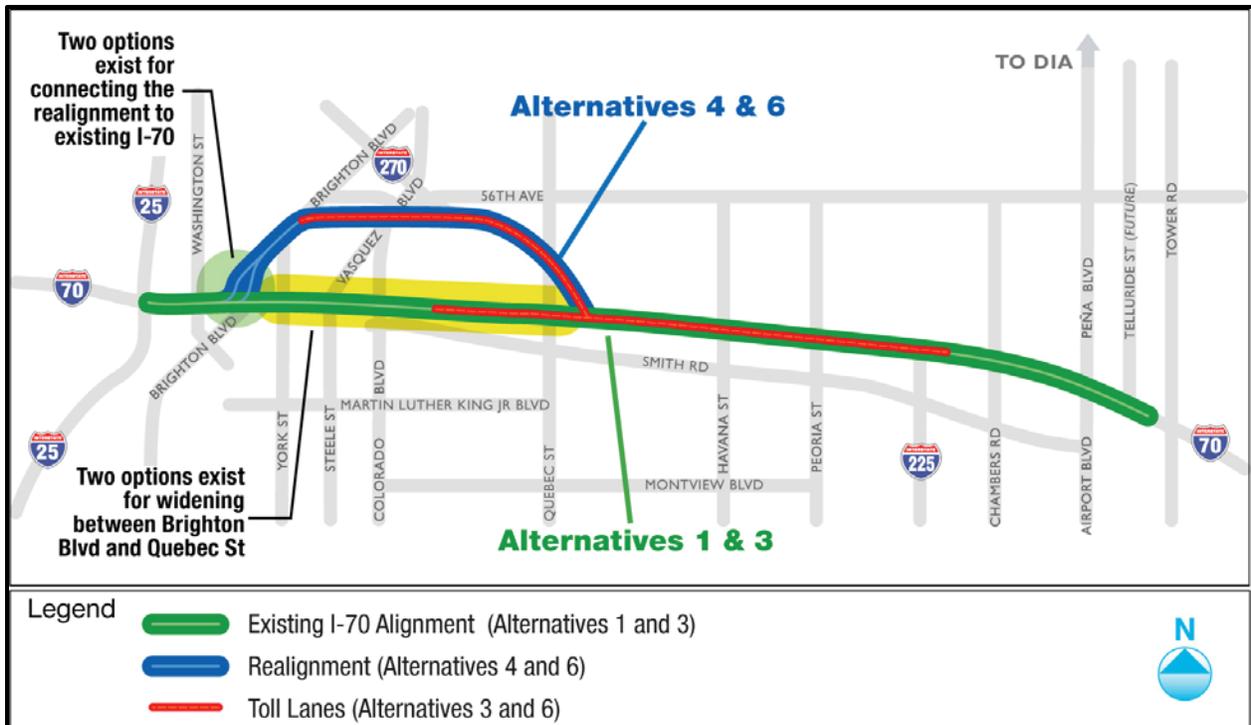


Figure 7. I-70 East Alternatives considered and presented to the public.

(Alternatives 4 and 6) analyzed in the draft EIS, after some community members suggested realigning I-70 in the vicinity of the current viaduct between Brighton Boulevard and Colorado Boulevard.

Community concerns related to safety, noise, and other issues were also incorporated into the project objectives and screening criteria.

### Analysis of Impacts

#### Approach Overview

In the analysis of impacts reported in the EIS, a separate section addressed environmental justice. The effects of each alternative relative to low-income and/or minority populations were reviewed, then the following three questions related to impacts to low-income or minority populations were addressed:

1. Are there elements of adverse impacts that would have particular effects on low-income and/or minority populations? For example, property would be acquired for all alternatives. Acquisition of property from Swansea Elementary School, could have particular impacts on low-income and minority populations.
2. Would adverse impacts be predominantly borne by low-income and/or minority populations, or would adverse effects be appreciably more severe or greater in magnitude than any adverse effects that would be suffered by the non-minority and non-low-income population? (In other words, would the effects on low-income and minority populations be disproportionately high and adverse compared to the effects on the general population?)

To determine the distribution of adverse effects for the draft EIS, the project team mapped the project construction limits for each alternative and determined, using Census data, the percentage of low-income and minority populations within 300 feet. The team also considered whether particular impacts would be concentrated in a specific area (e.g., relocations in Elyria and Swansea), and whether those areas have high percentages of low-income and/or minority populations.

3. Would the benefits provided by an alternative be equally available to low-income and/or minority populations, at the same time as other populations? For the draft EIS, the analysis of the distribution of benefits was qualitative, but took into account input received from the public. The project team also considered whether benefits were widespread or directed to particular areas with high concentrations of low-income and/or minority populations (Elyria and Swansea).

To reduce repetitive discussion, the analysis also described effects that are common to all alternatives or to particular sets of alternatives (e.g., existing alignment versus realignment). In the environmental justice analysis, CDOT considered impacts prior to any proposed mitigation measures (e.g., noise barriers), although standard construction and operation measures, such as dust suppression measures to reduce particulate emissions, were incorporated.

For each alternative, the discussion included a summary of effects, effects on low-income and/or minority populations, distribution of adverse effects, and access to benefits. Input gathered at the various meetings was used to inform the discussion of impacts on low-income

and/or minority populations. Some of the key issue areas that had the potential to affect environmental justice communities are summarized below:

#### *Effects of Tolloed Express Lanes*

Effects of tolloed express lanes on minority and low-income populations were analyzed in accordance with CDOT's 2006 guidelines *Possible Environmental- Justice Issues Related to Express Lanes*.

The topics addressed were (1) financial equity of express lanes on low-income populations, (2) physical access to express lanes for low-income and/or minority populations, (3) redistribution of traffic into low-income and/or minority neighborhoods, and (4) proportional sharing of the benefits of the tolling revenue to low-income and/or minority populations.

The draft EIS noted that equity studies conducted on managed-lane projects implemented in other States show that low-income drivers do voluntarily use express lanes and are not necessarily excluded, although more frequent use is often exhibited by high-income drivers. Equity studies revealed that low-income drivers approved of the "high-occupancy toll" concept (under which vehicles would be allowed in express lanes if they either paid a toll or carried two or more people [i.e., high-occupancy vehicles]) as well as the "express toll" concept, similar to the opinions of high-income households. Therefore, CDOT did not consider equity to be a major issue or obstacle in implementing pricing on the express lanes. Nonetheless, CDOT will consider options to reduce initial enrollment costs for low-income drivers so as not to exclude low-income drivers from participating in the managed-lane program. CDOT will also consider the means for

electronic toll collection and provide arrangements for individuals who may not have a credit card or bank account. If a preferred alternative includes tolled express lanes, the design of these lanes will take into account access to and exit in a way that ensures low-income and/or minority communities have equitable access. Detouring traffic on local streets (also known as “spilling”) due to motorists attempting to avoid tolling corridors was not expected to be an issue along I-70 East because of the nature of the corridor. If the preferred alternative includes tolled express lanes, the final EIS would include a detailed financial analysis of the ability of the toll revenue to pay the capital and operating expenses due to the tolling system. If this analysis suggests there would be disproportionately high and adverse effects on low-income and/or minority populations resulting from any discrepancy between toll revenues and the incremental costs of implementing toll lanes, then CDOT would propose appropriate mitigation measures. CDOT would also examine whether the benefits of establishing tolled lanes, such as improved reliability, reduced travel time, and improved incident management response, would be equitably received.

*Construction-Period Impacts in Low-Income Communities – Duration of Construction Noise, Light, Glare, Dust, and Traffic Disruptions in the Vicinity of Viaduct in Elyria and Swansea*

The draft EIS found that noise and dust during construction could be particularly problematic for people who do not have air conditioners and would most likely ventilate their homes by opening windows. Given that construction could go on for three to five years in the Elyria and Swansea neighborhoods, depending on the

alternative, the ambient noise from construction could generate concern among the residents in the vicinity of the construction zone. For other neighborhoods, construction noise would be less of an issue because there would be few or no residences in proximity to the construction zones (with the exception of a small portion of Commerce City for the realignment alternatives). For families with air conditioners or central cooling, closing windows is an option to reduce indoor noise, but families that rely on window ventilation could be forced to trade off ventilation and noise, at least during hours of construction. For these households, construction dust could also be an issue on windy days. Most large dust particles (greater than 100 microns in diameter) settle within 30 feet of their source, but smaller particles can travel as far as several hundred feet depending on wind conditions. The analysis concluded that, under some of the alternatives, adverse impacts would be borne predominantly by low-income and minority populations. As mitigation, dust suppression measures (e.g., stabilizing and covering loads of soil and debris during transport and storage, stabilizing and revegetating exposed areas after construction) were proposed to control dust impacts. In addition, it was proposed that nighttime construction be minimized and fuel specifications adhered to so that emissions from construction equipment would be reduced.

*Long-term Noise*

For operational noise in the vicinity of residential areas and parks, noise walls were provided as mitigation. Noise walls were provided under various alternatives for low-income and minority communities. In addition, noise barriers were considered for schools and parks in the environmental justice communities.

### *Neighborhood Amenities Displacement and Neighborhood Cohesion*

Effects to local amenities in the environmental justice neighborhoods were evaluated. Four main neighborhood amenities were identified: neighborhood markets, Denver Rescue Mission Ministry Outreach Center, Swansea Elementary School, and Stockyards Post Office. Alternatives were evaluated based on impacts to these amenities. The analysis concluded that, under some of the alternatives, adverse impacts would be borne predominantly and disproportionately by low-income and minority populations. Relocation of these amenities was considered as potential mitigation.

Effects of the new noise walls, viaduct, and traffic diversions on neighborhood cohesion were also considered. To reduce these effects, holding urban-design workshops and encouraging local residents and businesses to provide input and advice on the design of nonstructural design elements of the highway during the final design stages of the project were considered as mitigation. In response to community concerns, CDOT has developed a new alternative that puts I-70 below grade, with local streets crossing over. In addition, the freeway would be partially covered to create connectivity between neighborhoods north and south of the freeway. This cover could be located near the school to provide safer crossings for schoolchildren or near residential areas to create green space. Details have yet to be worked out, but community members have been receptive so far to the first designs to reunite the communities.

### *Air Quality*

One of the concerns frequently mentioned in scoping meetings and public comments was the effects of each alternative on air quality. Coordination among the Federal Highway

Administration (FHWA), Environmental Protection Agency (EPA), CDOT Air Quality Specialist, Colorado Air Pollution Control Division, and other air quality agencies was required to establish the methodology for evaluating air-quality issues associated with the project area.

An Air Quality Compliance Committee was formed and met seven times to guide the analysis process. The committee was comprised of a combination of local and national consultant and regulatory agency experts to provide a broad perspective. Committee members consisted of agency staff from Colorado Department of Public Health and Environment, the City and County of Denver, Denver International Airport, EPA, the National Jewish Medical Research Center, and three members of the public. Based on this process, the air-quality analysis was focused on carbon monoxide, ozone, particulate matter, and mobile-source air toxics (MSATs).

Mobile source air toxics are pollutants emitted from mobile sources such as cars and trucks. The typical process by which MSATs are studied was enhanced as a response to community concerns. In short, the analysis used certain pollutants within the MOBILE6.2 model run as indicators of MSAT emissions. This information provided the community an estimate of the emissions that could be expected with each of the alternatives.

For all alternatives, the draft EIS concluded that annual emissions of nitrogen oxides and sulfur dioxide will decline through 2030, despite increases in total vehicle usage. The decline is due to the replacement of older, higher polluting vehicles with newer, lower polluting vehicles. In terms of MSATs emissions of volatile organic chemicals would decrease by 55 to 65 percent, and emissions of diesel particulate matter would

decrease 87 to 88 percent between 2001 and 2030. The reduced emissions of air toxics would occur despite increased vehicle use of I-70; this would be caused primarily by new EPA emissions standards. The draft EIS noted that motor vehicle emissions in the study area would not result in any exceedance of the established air-quality threshold; therefore, no direct project air-quality mitigation is necessary.

### *Current Health Conditions*

Due to concerns expressed by the public during project scoping, the project team investigated studies of current and recent health conditions within and near the project area. This information was included in the EIS in the “Social and Economic Conditions” chapter. The project team identified peer-reviewed works that have been performed using information from the study corridor and that have been conducted by major agencies responsible for public health, including the Colorado Department of Public Health and Environment (CDPHE), the EPA, and the Center for Disease Control’s Agency for Toxic Substances and Disease Registry. The EIS summarized findings of the CDPHE study for differences in cancer rates and cancer-related behaviors between North Denver, the remainder of the Denver PMSA and the State. In general, the report suggested that behavioral risk factors were a significant contributor to the increased cancer incidence rate detected in North Denver. The report did not make any findings with respect to environmental exposure as a contributor to the increased incidence of cancer in North Denver. Additionally, the review of CDPHE’s cancer studies suggested that within the general vicinity of the project area, the occurrence of some cancers is higher than in the Denver PMSA as a whole. In general, CDPHE also found that behavioral risk factors such as smoking, dietary habits, and alcohol consumption as well as viral infections or other

### **Community Outreach Techniques**

Community outreach to environmental justice communities for the I-70 East EIS used a variety of techniques, including:

- Hiring residents from the neighborhoods to help share project information
- Conducting and requiring extensive training for anyone who will be interacting with the public
- Using flyers to notify residences and businesses of meetings
- Conducting door-to-door outreach as a first contact in many neighborhoods
- Holding block meetings within neighborhoods
- Attending neighborhood-association meetings and business meetings
- Conducting neighborhood meetings and larger corridor-wide meetings
- Providing translation, child care, and meals at meetings
- Establishing working groups to address specific issues
- Involving the media in a proactive manner

predisposing genetic factors or family history might be significant contributors to the observed elevated incidence rates. Additionally, CDPHE noted that other factors, such as exposure to carcinogens in the occupational, indoor, and ambient air, may also contribute to the overall individual and population risk.

### *Relocations*

Home prices in the Globeville, Elyria, and Swansea neighborhoods are relatively low compared with other neighborhoods in the study area. Thus, residents of these neighborhoods who are displaced may not be able to afford to move to other neighborhoods in Denver after receiving fair market value for their property, or

they would be forced to trade off location for individual house characteristics (e.g., a smaller house). Depending on the alternative, anywhere from 8 to 93 units could be displaced. It was determined that relocation assistance provided under the Uniform Relocation Act would be adequate to address these concerns, using FHWA's housing-of-last-resort provisions. Under the Uniform Relocation Act, financial and other assistance is provided to displaced residents and/or businesses. The relocation program must, at a minimum, (1) determine the needs of the displaced persons for relocation advisory services and make a sincere offer to help in any way possible; (2) provide information concerning federal and state housing programs, federal loan programs, and other governmental programs offering relocation assistance to displaced persons; and (3) provide relocation advisory services commensurate with the needs of each displaced person to minimize hardship associated with adjusting to a new location. In addition, CDOT right-of-way staff would make every effort to relocate people within their current neighborhoods (if desired). CDOT would also provide assistance to people who are relocated to find services in their new communities.

#### *Access to Construction Alerts*

Some people in the corridor do not speak English, and some may not be able to read in any language. To address this issue, information about road closures, access restrictions, and construction progress would be distributed through the use of several different channels (many of which are standard practice). These would include: fixed and variable signage to mark closures and alternate routes; a project-construction phone "hotline" for questions and concerns; notifications of closures and access disruptions in regional and local/neighborhood newspapers, on the radio, and through the

Internet; notices at churches and local community facilities (e.g., libraries, schools, recreation centers); publicly available DVDs; and ongoing updates using the project newsletter as well as flyers for children in school to take home to their parents. All of these forms of notification would be in English and Spanish, except for variable signage.

In summary, the draft EIS noted that some adverse effects would affect all populations equally, and only affect low-income and/or minority populations to the degree that they are geographically specific and located close to low-income and/or minority populations. Other adverse effects would affect predominantly low-income and/or minority populations. The nature and extent of impacts varied among the alternatives, but no alternative was completely without adverse effects that affect predominantly low-income and/or minority populations. It was also noted that all alternatives would entail construction spending that would lead directly to creation of construction jobs. These jobs would be available to people regionally, including low-income and minority populations. Mitigation measures would reduce impacts, but some adverse impacts would remain. Refinements to the alternatives and identification of impacts and mitigation would continue following the draft EIS.

#### **Evaluation of a Community-Based Alternative**

Since completion of the initial draft EIS, the lead agencies have been working to develop a preferred alternative. As part of this analysis, input was received from a Preferred Alternative Collaboration Team (PACT). The PACT included representatives from various public agencies in the area, local business, and community representatives, including some from environmental justice communities. After

considering input from the PACT and additional outreach conducted within the community by the City and County of Denver (CCD), the project team has taken a closer look at the options that may be feasible along the current alignment. The team also reexamined the reasons previous alternatives were eliminated and examined a suggested alternative from the environmental justice communities of Elyria and Swansea.

The Elyria and Swansea alternative would realign the highway to avoid extensive residential effects and impacts to an existing school that would result from a wider highway. No viable options to relocate the school were available. The affected environmental justice communities urged that the school not be relocated and other design alternatives be considered. This additional analysis has resulted in two build alternatives, the Revised Viaduct (North and South) and Partial Cover (North), in addition to the No-Action Alternative. These alternatives will be evaluated in a recirculated draft EIS, which was underway at the time this case study was prepared.

### Effective Practices and Lessons Learned



Figure 8. A micro to macro strategy was used for outreach on the I-70 East project.

**Use a micro to macro outreach strategy.** A variety of techniques were used to ensure meaningful involvement from the community. The outreach process was designed to be personal and extensive. It began on a one-on-one level and then expanded to bring together the many interests in the corridor. The process started with door-to-door surveys in affected neighborhoods (which were also predominantly

low-income and minority) then expanded into block meetings, neighborhood meetings, and corridor-wide meetings.

*Door-to-Door Survey:* A door-to-door survey was used in specific neighborhoods that were directly affected by the project. Neighborhoods were selected for the focused door-to-door outreach approach based on identification of areas with the highest percentages of minority and/or low-income populations and proximity of residential areas to I-70. Outreach specialists used the survey to gather information from the residents as part of the scoping process. A standard dialogue was used to ensure that all of the outreach specialists were communicating the same message to the residents. Spanish-speaking outreach specialists were also made available. A canvas bag was offered to every person who agreed to complete a survey.

Surveys were collected at the end of each day and input into a database to track the results. The information was used to develop a summary of the transportation characteristics and issues disclosed by each neighborhood. Summary reports for each neighborhood were also developed.

*Block Meetings:* In neighborhoods where door-to-door outreach was conducted, block meetings were also held. The purpose of the meetings was to inform residents of the EIS process, introduce the project team, and provide an intimate setting to develop a better understanding of specific concerns in certain areas. Meetings began with a short presentation followed by an open forum to answer questions and solicit input. Translation services and meals were provided.

*Neighborhood Meetings:* Following the block meetings, neighborhood meetings were conducted to focus on broader neighborhood issues. These meetings were held in all of the

neighborhoods throughout the corridor and included short presentations and an open forum to allow the community to interact with the project team. Meeting materials were available in both English and Spanish. Summaries of the questionnaires and block meetings from within each neighborhood were discussed. Translation services, meals, and child care were provided at each neighborhood meeting. During the development of alternatives and analysis of impacts, additional neighborhood meetings were conducted to focus on issues that affected sub-areas of the overall project area.



*Figure 9. Photo taken during a public event for the I-70 East project.*

**Corridor-wide Meetings:** Following the neighborhood meetings, corridor-wide meetings were conducted to discuss all of the issues from the various neighborhoods and provide a corridor-wide understanding of similarities and differences. Meeting notes were produced, including a summary of the questions that were asked. Each round of corridor-wide meetings provided two opportunities for the public to attend. The meetings were held back-to-back on a Wednesday and Thursday evening at strategic locations within the project area to make it as convenient as possible for the public to attend. Translation, meals, and child care were provided at each corridor-wide meeting.

The traditional audience-style format with informational boards, presentation, and question-and-answer period was used for the

corridor-wide meetings during the scoping process. The format of subsequent community outreach meetings was modified to an open-house format by substituting the formal presentation and question-and-answer period with small topic-specific discussion groups moderated by technical consultants. Each discussion group had a scribe who recorded comments and questions. Comments received during the open house were recorded and posted on comment boards to be reviewed by all participants. Overall summaries of the post-scoping meetings were prepared and posted on the project website along with all of the meeting exhibits and handouts.

*Figure 10. Photo taken during a public event for*



*the I-70 East project.*

**Educate communities about environmental justice and the environmental process.** After the scoping phase, six working groups were established to provide an opportunity for residents, businesses, stakeholders, and property owners to continue their participation and learn more about how the scientists, engineers, and planners would evaluate specific resources. Working groups were composed of members of

the community who expressed interest in joining the groups at neighborhood and corridor-wide meetings held in predominantly environmental justice communities or signed up on the project website.

The working groups were used to solicit input, establish dialogue about specific issues (e.g., alternate routes; bicycle/pedestrian/open space; community impacts, including environmental justice; economic development; interchanges; trucking/motor carriers), and educate the members about the resources that would be considered in the EIS. Innovative exercises were incorporated into the meetings, such as monitors on local streets to get readings on traffic noise, puzzles that helped participants gain an understanding of alternative packaging, and an exercise designed to help participants understand how the various alternatives would be screened by comparing the process to buying a car (see Figure 12). Issues from each working group were then communicated back to project management.

The Community Impacts Working Group focused on the potential for impacts on affected communities. One meeting of this group, in May 2004, addressed environmental justice specifically. At this meeting, the project team showed an environmental justice video from the EPA. In addition, the project team gave a verbal presentation on environmental justice laws and regulations, provided a handout, and described how environmental justice would be addressed in the EIS. Members of the community also participated in an exercise that illustrated the use of population data similar to what is included in the draft EIS document.

**Educate staff about environmental justice and the community.** All lead-agency representatives and consultants who would be

engaged with the public at any of the meetings were asked to commit to walking the neighborhoods to gain familiarity with the community. Also, they had to participate in door-to-door surveys for a day. Engineers and lead-agency representatives speaking to the public were trained to reduce the use of acronyms and use terminologies easily understandable to the public—for example, using the word “ramp” instead of “interchange.”



*Figure 11. A puzzle was used to explain the packaging of elements into an alternative.*

**Maintain a consistent face for the project.** To build trust in the community and build rapport, key members assigned to the project were asked to commit their time and come out to all meetings consistently. These people became the face of the project from start to finish.

**Build trust and a consistent message.** To facilitate the initial phase of the community-outreach process, individuals living within the

## Explaining how alternative elements are screened

### Vehicle buying alternatives exercise

Vehicle type	Initial Screening			
	Size	Use	Gas mileage	Maintenance
	Does the vehicle seat 6?	Does the vehicle have the ability to go camping?	Does the vehicle use regular unleaded?	Is the vehicle easy to maintain?
1. Subaru Outback	YES	YES	YES	YES
2. Bicycle	NO	YES	NO	YES
3. Dodge Caravan	YES	YES	YES	YES
4. Ford Excursion	YES	YES	YES	YES
5. Prius Hybrid	YES	NO	YES	YES
6. Lexus	NO	NO	YES	NO
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

During community working groups the decision-making process that was used to screen alternatives was related to a process that most people have experienced. The process for I-70 East was explained through an exercise that simulated the decision-making process for buying a car.

Relating the process to something that many people have experienced resulted in a clear understanding on how decisions are made in the EIS process.

Vehicle type	Comparative Screening			
	Size	Use	Gas mileage	Maintenance
	Seats 6 comfortably	Ability to go off road	Miles per gallon	Ability to maintain at home
1. Subaru Outback	○	◐	●	●
2. Bicycle				
3. Dodge Caravan	●	○	◐	◐
4. Ford Excursion	●	◐	○	○
5. Prius Hybrid				
6. Lexus				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Vehicle type	Detailed Screening			
	Size	Use	Gas mileage	Maintenance
	Number of car seats that will fit	Clearance	Highway compared to local gas mileage	Number of oil changes required yearly
1. Subaru Outback	2	14"	30/27	4
2. Bicycle				
3. Dodge Caravan	4	10"	20/17	4
4. Ford Excursion				
5. Prius Hybrid				
6. Lexus				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Figure 12. I-70 East "buying-a-car" training tool as a project alternative comparison.

community were hired to assist with outreach efforts, including door-to-door outreach, block meetings, and neighborhood meetings. These individuals leveraged their existing relationships and community understanding to gain credibility and trust, and encouraged their neighbors to get involved in the project. All individuals were required to go through an extensive one-day training program to understand the project and their roles better. Each individual was provided a script regarding the project to ensure that everyone working in community outreach provided a consistent message. This training was also required for any member of the project team involved in community outreach.

**Use a high-touch/low-touch approach to understand your audience.** The outreach team employed various techniques to reach out to the representative communities. Because of the prevalence of low-income and minority populations, a “high-touch” approach was employed. A high-touch approach means that meeting reminders and project information are provided in more than one way. Whereas, for some non-environmental justice populations, an email blast or a flyer (low-touch approaches) may do; for the environmental justice population in the study area, it was determined best to post project or project-meeting information at various locations, such as recreational centers, churches, barber shops, beauty salons, or similar locations to encourage dissemination of information through word of mouth.

**Conduct meetings for maximum participation.** For corridor-level meetings, a “snake” formation was developed. This involved attendees signing in, being handed a package of project information, having a concierge explain the purpose of the meeting, and being helped with food service and escorted to a table for a discussion of the issues. At the table, attendees

would be surrounded by neighbors and friends, and the facilitator would listen to their input and combine everything that was said. Community outreach staff members were dressed in orange T-shirts with name tags and could be pulled aside to ask for assistance. Staff members would also clean the tables so that the community could focus solely on the issues discussion.

**Establish a community-outreach process feedback loop.** Representatives from local jurisdictions, as well as business owners and members of the public including representatives from environmental justice communities, attended the Community Outreach Process Forum. The purpose of the forum was to solicit insights and suggestions on how to improve the community-outreach process. As a result of the forum, the study team began posting working-group minutes on the project website.

**Be responsive to addressing impact-areas of concern.** For the I-70 East project, air quality and health effects were two impact-areas of concern. The draft EIS discussed the air-quality impacts for each alternative relative to construction-related fugitive emissions, criteria pollutants, CO “hot spot” analysis, PM10 hot-spot analysis, and MSATs.

The MSAT analysis was accomplished by using EPA’s MOBILE 6.2 emission inventory model. The years analyzed included the baseline year (2001), the long-range planning horizon for the project (2030), and interim years 2010 and 2020. In addition, MSAT emission factors were also calculated for 1990 to provide a long-term perspective that includes the year in which air toxics were first identified in the 1990 Clean Air Act. FHWA noted that even though reliable methods do not exist to estimate accurately the health impacts of MSATs at the transportation-project level, it is

possible to assess the level of future MSAT emissions for the project qualitatively. The qualitative assessment presented in the draft EIS was derived in part from a study conducted by FHWA entitled *A Methodology for Evaluating Mobile-Source Air-Toxic Emissions among Transportation Project Alternatives*.

## Benefits

### For the Community

The benefits of including the environmental justice community as part of this project are several. On a project-level basis, the community has chosen alternatives that would reduce impacts on their community. The viaduct option that was reintroduced into the EIS process after the draft EIS was circulated was because of the local environmental justice community's demand for reducing impacts. Beyond the project level, the education and information about the environmental process, various resource areas, and alternatives-selection process will help the community become more engaged in the environmental process in the future.

### For the Agency

Since the 1960s, the community has distrusted CDOT and the FHWA because of freeway projects that affected the study area. However, the public-outreach process conducted for I-70 East has helped build trust, and the environmental justice communities came out in large numbers for all the meetings.

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