Figure 3-6
Parks and Recreation Resources
indicated that the noise levels at these locations would increase between two and five decibels over the No-Action Alternative, as shown in Table 3-10. Two of the locations evaluated are projected to have higher noise levels than the established impact threshold, based on CDOT noise abatement criteria. These locations include the USACE office buildings east of Wadsworth Boulevard and a portion of the C-470 trail. Therefore, in accordance with CDOT Noise Analysis and Abatement Guidelines, these locations would be considered for mitigation. Additional detail on noise analysis is discussed in Section 3.3.3.

Improvements to the Santa Fe Drive interchange require the closure of the southbound right-in right-out access from Santa Fe Drive to the Chatfield State Park permit office located in the southwest quadrant of the interchange. This existing access currently requires a sharp right hand turn into the driveway to the park permit office, and must be closed due to proximity to the new interchange. The signalized Blakeland Drive intersection would operate better due to increased capacity at the Santa Fe Drive interchange. This would result in better operational access to the permit office. The Blakeland Drive intersection would improve from a level of service (LOS) E to C in the PM peak hour, while the AM peak hour operations would remain the same at LOS C.

The addition of four retaining walls along portions of the northern and eastern perimeter of the park would alter the views from inside Chatfield State Park looking out. An example of one of these walls is shown in Figure 3-31. These walls would be most closely visible from the park permit office in the southwest quadrant of the Santa Fe Drive interchange and from bicyclists and pedestrians traveling on the C-470 trail that passes through Chatfield State Park parallel to C-470.

HIGH LINE CANAL TRAIL. The High Line Canal trail runs coincident with the C-470 trail from the point at which it crosses under C-470 east of Santa Fe Drive to the trailhead on County Line Road, west of Broadway. Due to the widening of the roadway, the box culvert through which the High Line Canal trail passes under C-470 would have to be lengthened as a result of this alternative. This action would not alter the trail itself. However, the distance the trail would be covered under C-470 would increase. Construction activity at this location would require a temporary detour around the work site.

LINKS GOLF COURSE. The GPL Alternative design requires acquisition of 0.16 acre of the private Links Golf Course property for additional right-of-way to construct a water quality pond. Water quality ponds are necessary part of the roadway design to help filter pollutants from stormwater runoff before the water flows into nearby waterways. The function of these ponds is discussed in more detail in Section 3.3.4.

Express Lanes Alternative
The EL Alternative would have the same impacts to recreational properties as those described for the GPL Alternative, with a few minor exceptions. As shown in Table 3-10, the EL Alternative would result in slightly higher noise levels at the interpretive off-leash area and on the C-470 trail in Chatfield State Park. The culvert extension for the High Line Canal would likely be longer for the EL Alternative, due to the slightly wider typical section through this area of the Corridor. The EL Alternative would require acquisition of 0.03 acre more of the private Links Golf Course property than the GPL Alternative.

3.2.6.3 Mitigation
Of the area within Chatfield State Park that is directly adjacent to C-470, the only fixed use facility that would experience noise impacts would be portions of the bike/pedestrian trail. In determining mitigation feasibility and reason-
ableness, several factors are considered in CDOT’s procedures. Overall, while mitigation measures could be constructed that provide a substantial noise reduction on the trail, the total cost of those mitigation measures would be very high when compared to the overall benefit that would be provided. This is primarily due to the fact that the use of the trail is intermittent and that there are no fixed facilities along the trail, such as picnic areas. As a result, noise mitigation is not reasonable for the bike trail and is not recommended. The USACE offices east of Wadsworth Boulevard are commercial use facilities and do not have any active outdoor use areas. Thus mitigation of this location is not considered reasonable and is not recommended. The law is designed to ensure just compensation for all acquired properties and to minimize effects on property owners and tenants. Acquisition costs are based on fair market value appraisals of the parcels required to accommodate final design limits. Additional information regarding C-470 ROW is located in Right-of-Way and Relocations (July 2005).

3.2.7.1 Affected Environment

The existing C-470 ROW is generally 300 feet wide along the mainline and varies at interchanges to accommodate the wider footprint. This entire ROW is owned by CDOT, with the exception of the section from Wadsworth Boulevard to Santa Fe Drive. In this section, C-470 crosses property owned by the USACE under an easement granted to CDOT for the specific purpose of transportation use.

The easement on USACE property is approximately 300 feet wide, totaling 124 acres. The easement allows use of the property for transportation and requires approval of all activity and any proposed changes. As long as the transportation improvements stay completely within the easement, no amendment to the easement is required. However, if additional property is required, or if the activity within the easement is substantially different than the original easement, an amendment would be required. The USACE has full jurisdiction in determining whether an amendment to the easement is necessary.

3.2.7 Right-of-Way and Relocations

ROW is the land on which a highway is constructed and includes ramps, medians, shoulders, drainage ditches, and adjacent land interests owned for highway-related purposes. All highway elements must be located within state-owned ROW or other property under easement or leased to the state. All land necessary for highway improvements must be purchased from existing property owners in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), as amended, and the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), hereinafter referred to as the Uniform Act.

The existing C-470 ROW is generally 300 feet wide along the mainline and varies at interchanges to accommodate the wider footprint. This entire ROW is owned by CDOT, with the exception of the section from Wadsworth Boulevard to Santa Fe Drive. In this section, C-470 crosses property owned by the USACE under an easement granted to CDOT for the specific purpose of transportation use.

The easement on USACE property is approximately 300 feet wide, totaling 124 acres. The easement allows use of the property for transportation and requires approval of all activity and any proposed changes. As long as the transportation improvements stay completely within the easement, no amendment to the easement is required. However, if additional property is required, or if the activity within the easement is substantially different than the original easement, an amendment would be required. The USACE has full jurisdiction in determining whether an amendment to the easement is necessary.

3.2.7 Right-of-Way and Relocations

ROW is the land on which a highway is constructed and includes ramps, medians, shoulders, drainage ditches, and adjacent land interests owned for highway-related purposes.
3.2.7.2 Environmental Consequences

Based on conceptual design, the analysis completed for this EA estimated the necessary ROW acquisition for each of the alternatives under consideration, as shown in Appendix D. The evaluation identified potentially affected parcels. Property owners and tenants were notified of these potential effects to allow them to be involved during project planning. This process was followed to determine whether any encumbrances or liabilities might exist on potentially affected property, which could have an effect on the development or selection of an alternative. Through this ROW evaluation, design decisions were made that avoided and minimized adverse effects to adjacent parcels, thereby reducing the amount of additional ROW acquisition required.

No-Action Alternative
The No-Action Alternative would require no ROW acquisitions or modifications to USACE easement.

General Purpose Lanes Alternative
Partial acquisition of 49 parcels would be required for the GPL Alternative. The total area of these acquisitions would be 16.68 acres. These acquisitions are needed for roadway widening, water quality ponds, drainage ditches, culvert extensions, ramp reconstruction, trail reconstruction, and the Santa Fe Drive interchange improvements. The affected parcels consist of five land use types: government, residential, commercial, agricultural, and undeveloped land. No residential or commercial structure relocations would be required. These potential acquisitions are unimproved portions of already-developed land. In some cases the potential acquisitions would include parking spaces or landscaping along the highway. Individually, these acquisitions would range from less than one tenth of an acre to approximately two acres. Table 3-11 summarizes the ROW impacts for the GPL Alternative. The "unknown" land use classification refers to parcels that did not have a land use specified in the county parcel information used for this analysis.

Express Lanes Alternative (Preferred Alternative)
Partial acquisition of 55 parcels would be required for the EL Alternative. The total area of these acquisitions would be 20.25 acres. These acquisitions are needed for roadway widening and to construct and maintain water quality ponds, drainage ditches, and culvert extensions, ramp reconstruction, trail reconstruction, the Santa Fe Drive interchange improvements, and direct express lane access at Colorado Boulevard and Quebec Street. The affected parcels consist of five land use types: government, residential, commercial, agricultural, and undeveloped land. No residential or commercial structure reloca-

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tions would be required. These acquisitions are unimproved portions of already developed land. In some cases the potential acquisitions would include parking spaces or landscaping along the highway. Individually, these acquisitions range from less than one tenth of an acre to approximately two acres. Table 3-12 summarizes the ROW impacts for the EL Alternative. The “unknown” land use classification refers to parcels that did not have a land use specified in the county parcel information used for this analysis.

3.2.7.3 Mitigation
Mitigation for the GPL and EL Alternatives would consist of avoiding and minimizing ROW acquisitions. Property owners would be compensated for the value of the land acquired through the ROW acquisition process.

During the concept design process, efforts were made to avoid and minimize ROW effects. This was accomplished by investigating the optimal horizontal and vertical alignment, and by incorporating retaining walls, curbs, barriers, and steeper side-slopes and back-slopes into the design to limit the required ROW width.

Upon identifying potential ROW acquisition, affected property owners and tenants were invited to attend public open house meetings. Owners and tenants were informed of the potential effects to their properties and were given the opportunity to comment on the alternatives under consideration. CDOT ROW staff was available to answer questions about the property acquisition process and their rights under the Uniform Act. All property acquisition would be conducted in compliance with the Uniform Act. CDOT will continue to work with affected property owners through final design to further avoid and minimize the need for ROW acquisition. Adequate lead time for the ROW acquisition process will be planned and programmed into the study schedule. CDOT will allow adequate time to accomplish the steps necessary to negotiate the purchase of the required property needed to build the project.

3.3 PHYSICAL ENVIRONMENT
The physical environment of the C-470 project area includes the non-living features of the environment that can be affected by transportation projects. Effects to the physical environment evaluated in this EA include transportation and traffic; air quality; noise; water quality; hydrology and hydraulics; floodplains; historic resources; Section 4(f) properties; archaeological resources; paleontological resources; geology and soils; hazardous materials; visual character; and utilities. The C-470 trail and temporary effects during construction were also evaluated with respect to the three alternatives.

3.3.1 Transportation and Traffic
The C-470 mainline, ramps, arterial street network, and the C-470 trail, compose the multimodal C-470 transportation corridor. This section addresses the existing and forecasted future traffic volumes and operations of these elements of the transportation system.

Traffic forecasts were performed using the 2025 DRCOG travel demand model. Traffic, circulation, and safety aspects of the three alternatives were evaluated using a traffic micro-simulation model. Potential capacity improvements to the C-470 mainline were evaluated with respect to their potential to affect the ramp terminal intersections and other arterial streets. As more traffic is accommodated by mainline C-470, the potential exists to increase traffic on the arterial street system.

In the interest of conserving space in the document, much of the analysis and data is summarized in this section. Detailed methodologies, analysis, data, and conclusions can be found in the Alternatives Screening Technical Report (March 2005).

3.3.1.1 Existing Traffic Volumes and Operations
During 2003, weekday AM and PM peak hour traffic counts were collected on C-470 and intersecting arterial streets in the project area. The
Figure 3-7a
Existing (2003) Traffic Volumes

Legend

Average Daily Traffic Volumes (both directions)

AM (PM) Peak Hour Traffic Volumes (directional)
Figure 3-7b
Existing (2003) Traffic Volumes