Adaptive Reuse

Turning Vacant Buildings into Schools

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Adaptive Reuse: Trading Spaces

- Adaptive reuse – what is it?
- What types of facilities
  - Retail facilities
  - Strip Malls
  - “Big-Box” buildings
  - Grocery stores
  - Churches
  - Museums
  - Office and Manufacturing

This historic mule barn was incorporated into the final design of the East Valley Institute of Technology

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**Addressing a “Growing” Problem**

- Since WWII, growth has taken the form of suburban sprawl and urban disinvestment.
- The typical mother spends an average of one hour per day behind the wheel (National Trust 2002).
- Only 13 percent of students walk or bike to school (US Transportation Dept 2001).
- Construction of a new school on a district’s perimeter can alter the direction of future development for the entire community.

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A Narrowing of Options

Why are districts turning to adaptive re-use?

- Need for quick facility solutions to problematic overcrowding
- Lack of undeveloped land
- Availability of abandoned commercial and industrial buildings

*Over 300 former Walmart facilities are for sale across the U.S. (AS&U 2004)*
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Building Community

Adaptive Reuse Promotes Smart Growth

- Reuse candidates are typically centrally located facilities
  - Walkable schools
  - School as center of community
- Utilization of existing structures
  - From Eyesore to Opportunity
  - Historic Preservation
- Mixed-Use Land Developments
- Revitalized Communities
Sustainable Solutions

Large-scale recycling
- Unwanted buildings avoid costly abandonment or demolition
- Reuse of structure and materials
- Preservation of neighborhoods
Determining Feasibility

- Structurally Sound Building
- Adaptive Facility
- Properly Zoned
- Resolvable safety / security issues
  - Secure location
  - Removal of hazardous materials
- Potential for accessibility
- Code Compliance

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Project Case Studies

- **Commercial Facilities**
  - Maryvale Mall (abandoned mall)
  - Guerrero Elementary (grocery store)
  - Winn Dixie 9th Grade Center (grocery store)
  - Moore Square Middle (downtown city block)

- **Manufacturing Facilities**
  - Lufkin Road Middle (manufacturing & research facility)
  - E-26 Elementary (manufacturing facility)

- **Government and Office Facilities**
  - Robert F. Kennedy Charter High School (post office)
  - River Oaks Special Optional School (office building)

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Commercial Facilities
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Maryvale Mall

- Purchased & renovated a 1950’s shopping mall facility into an elementary and middle school

- Acquisition cost: $7.3 million
- Square footage: 133,000
- Project total: $16 million
- School capacity: 1,600 Students
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Maryvale Mall

Cartwright SD

- Cartwright area example of urban disinvestment
- Overcrowded schools
- Large minority population
- Multiple families in single-family houses made enrollment projections difficult
- Lack of land

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Maryvale Mall

- Original mall built in 1950’s in Phoenix’s first subdivision
- Building had undergone several renovations/additions over the years, including transformation from outdoor mall to enclosed facility
- Dilapidated facility had sat vacant for years

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Maryvale Mall

- Elementary entry designed as streetscape
- Skylights incorporated for daylighting
- Designed to maximize flexibility
- Community Center and Clothes Closet
- Shared kitchen and media center
- Transitional school for displaced students during renovations

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Maryvale Mall

END RESULT:

Movie Theater      Auditorium
Bowling Alley      District Warehouse
Skating Rink       Gymnasium
Parking Lot        Playground/Fields

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Maryvale Mall

Catalyst for Change

- Maryvale Ballpark
- New $10 million library and multi-generational community center
- Residential revitalization and new construction
- Commercial reinvestment

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- Former Smith’s Grocery Store transformed into Pedro Guerrero Elementary School
- Use of one-way vehicle entries and eight-foot screening walls to shield commercial traffic
- U.S. EPA selected Guerrero Elementary as a model of IAQ guidelines due to its state-of-the-art air filtration system and proper chemical storage

The stucco exterior and boxy structure only hint at the building’s origins as a Smith’s grocery store
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Winn Dixie 9th Grade Center

- 52,474 square feet
- Has adequate water and sewer
- Does not have adequate play area
- Potential: convert to an elementary school
- Challenge: 10 year lease

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Moore Square Middle School

- Purchased property in downtown Raleigh in 1997; opened in 2002
- Typical middle school is for 1,000 students and requires 25+ acres
- Space constraints did not allow for an auditorium and extended playing fields
- Project total: $14M
- School capacity: 651 with objective to occupy 2 city blocks totaling 8 acres

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Moore Square Middle School

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Moore Square Middle School
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Moore Square Middle School

- Built on a downtown city block with obvious space constraints – 125,000 sf
- Student capacity is 651 with 43 teaching spaces vs. typical 981 students & 61 teaching spaces
- Classrooms are 3 story vs. more typical 2 story
- Students take mini-field trips instead of relying on ‘school’ facilities
- Offered as a “museums” magnet school with a base assignment
Moore Square Middle School

- Compact design to include a gym, limited playing fields, parking areas & outdoor amphitheatre, roof art terrace
- Each story houses one grade level
- Has won several awards:
  - National Architectural Design award for “Impact on Learning”
  - “Community Appearance” Award
  - “EPA National SmartGrowth” Award
Office and Manufacturing
Lufkin Road

- Purchased a former manufacturing facility in 1998 turning it into a standard middle school a year later.
- Located in an industrial area with traffic and “hazardous chemical” issues.
- Square footage: 144,000
- Project total: $22.3 M
- School capacity: 1,200 YR

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Lufkin Road
The two-story office section was converted to classrooms & administrative spaces.

The high bay manufacturing area was renovated to include cafeteria, gym, media center & music room as well as classroom spaces.
Lufkin Road

- Demolished interior of building & added stairwells to meet code requirements
- Aggressive design, approval & bidding process compressed into 3 months
- Construction time reduced from 18 months to 6 months
E-26 Elementary

Manufacturing Facility – Apex

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E-26 Elementary
E-26 Elementary

- Renovated into an 800 student elementary school
- Created a second floor in the high-bay area
  - 77.2 K SF Expansion to 104.6 K SF

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Government and Other Facilities
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Robert F. Kennedy Charter HS

UNM’s “Children and Architecture”

Students helped transform post office into their new HS
- Direct Planning Input
- Helped select design elements and materials
- Participated in construction
- Laid 5,000 adobe bricks
- Activities integrated into curriculum

Robert F. Kennedy Charter HS
Photographer: Jamie Stillings
Edutopia Magazine, April 2005

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River Oaks Middle School

Purchased & renovated 2 ½ story office building in 2005 turning it into an ‘alternative’ middle school

- Square footage: 32,000
- Project total: $5.1M
- School Capacity: 125
River Oaks Middle School

RIVER OAKS MS

ORIGINAL FLOOR PLANS

BUSINESS OCCUPANCY

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**River Oaks Middle School**

**RIVER OAKS MS**

**RENOVATION FLOOR PLANS**

- **BASEMENT**  6,000 SF
- **1ST FLOOR**  12,500 SF
- **2ND FLOOR**  12,500 SF

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River Oaks Middle School

- 80% of interior was demolished and converted to classrooms.
- Retrofitted stairwells and lavatories
- Design and construction, September 2004 – October 2005
- Does not have an outside play area, but does have room for a basketball court
River Oaks Middle School

- 1:9 student/teacher ratio
- Students are there for up to 2 ½ months
- Construction utilized 2 ½ floors with dining hall on lower level
- Excellent location for accessibility from all areas
Partnership for Learning

Use of museums and other facilities offer unique learning opportunities

- Henry Ford Academy
  Dearborn, Michigan
  Concordia Architects

- Congo Gorilla Forest Classroom
  Bronx, NY
  Helpern Architects

- Seattle’s The Center School
  Bassetti Architects

- High School of Environmental Studies
  “Zoo School”
  HGA Educational Design Group

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Advantages to Adaptive Reuse

- Community ownership of existing structures
- Reduced costs
- Time savings
- Design work mostly interior
- Central location
- Access to public transportation
- Big boxes offer ample square footage and large lots for outdoor development
- Public perception of fiscal stewardship

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Challenges of Adaptive Reuse

- Zoning issues
- Aesthetic challenges
- “Box” design has high ceilings / no windows
- Possible traffic, safety and parking concerns
- Need to break facility into smaller spaces
- Materials used in commercial buildings may create challenges for educational use
- Potential for contaminated soil or hazardous materials
- Existing or adjacent tenants

Maryvale Mall – skylights were utilized to compensate for a lack of windows in the boxy external structure
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