



TRANSACTION WINDOWS:

HOW TO SPECIFY THE RIGHT
PASS THROUGH OR TICKET WINDOW FOR THE APPLICATION



PROGRAM REGISTRATION

Credit(s) earned on completion of this course will be reported to AIA CES for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

This course is registered with AIA CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

COPYRIGHT MATERIALS

This presentation is protected by U.S. and International Copyright laws. Reproduction, distribution, display, and use of the presentation without written permission is prohibited.

© Ready-Access

COURSE OVERVIEW



Transaction windows are a large and growing part of modern life. Their function is to add ease, safety, and comfort for both the operator and the customers.

This course demonstrates the importance of transaction windows and shows the architect or specifier what is in the specification. Case studies show how transaction windows were specified for particular applications.

LEARNING OBJECTIVES



Upon
completion of
this course the
student will be
able to:

- Discuss the variety of transaction/ticket/cashier windows applications and their functions.
- Identify what is included in the specification of a transaction/ticket/cashier window.
- Define common options for drive through transaction windows, interior transaction windows, and ticket/teller/cashier windows.
- Describe transaction windows for food service, and the standards that are often required for permitting

The background image shows a light-colored building facade with a grid of vertical lines. A large, semi-circular window is centered in the upper half, reflecting a city street with buildings and trees. Below it is a smaller, rectangular window with two panes, also reflecting the street scene. The overall tone is muted and architectural.

SECTION I

TRANSACTION AND TICKET WINDOWS AND THEIR FUNCTIONS

TRANSACTION AND TICKET WINDOWS AND THEIR FUNCTIONS

Venues for Transaction and Ticket Windows

- Food service
- Banks
- Car washes
- Convenience stores
- Correction facilities
- Dispensaries
- Distribution centers
- Dry cleaners
- Guard shacks
- Liquor stores
- Medical offices
- Hospitals
- Office reception areas
- Parking garages
- Scale houses
- Schools
- Pharmacies
- Theaters
- Zoos
- Parks
- Aquatic centers
- And Others

TRANSACTION AND TICKET WINDOWS AND THEIR FUNCTIONS



Transaction Windows Increase Business

- Sales increases of 25 percent or more when a drive through option is offered
- Add convenience and safety for patrons and staff
- Key elements to the operation of many businesses and facilities

TRANSACTION AND TICKET WINDOWS AND THEIR FUNCTIONS



Trends for Transaction Windows

- Relocations of businesses from inline to end cap locations and outbuildings
- More windows for light and visibility
- More drive through/walkup only concepts
- Traditional delivery concepts adding drive through options
- Mounting transaction windows in storefront vs. masonry

<https://www.qsrmagazine.com/reports/drive-thru-2016-dunkin>

TRANSACTION AND TICKET WINDOWS AND THEIR FUNCTIONS



- Freddy's prototype with double drive-thru, walk-up ordering station, and no seating inside
- Drive thru/walk up only concepts are becoming more popular

The background image shows a light-colored, possibly white, building facade. A large, semi-circular window is the central focus, reflecting a city street scene with buildings and trees. Below this window is a smaller, rectangular window. The overall aesthetic is clean and architectural.

SECTION 2

WHAT GOES IN THE SPECIFICATION?

WHAT GOES IN THE SPECIFICATION?



Unique Operation of Transaction Windows

- A transaction window is likely opened and closed more times in one day than some residential windows are opened in an entire year
- A transaction window often opens to:
 - A line of running vehicles with their fumes
 - Wind driven dust
 - Flying insects
 - Hot and cold weather

WHAT GOES IN THE SPECIFICATION?



Architectural Specification

- The architectural specification for Pass-Thru Windows is Section 08 56 19

WHAT GOES IN THE SPECIFICATION?



Details of Specification

- Rough opening size vs. service opening size
- Window design type
- Opening slide direction or flip
- Glazing
- Operating system
- Accessories

WHAT GOES IN THE SPECIFICATION?



Rough Opening Size

- Determine how much room is available for the rough opening
- Rough opening is typically $\frac{1}{2}$ inch larger than the frame size
- Factors that must be considered:
 - The attendants' positions
 - Interior equipment layout
 - Walkup or drive up traffic patterns

WHAT GOES IN THE SPECIFICATION?



Service Opening Size

- Consider how much room is needed to hand out the product or paperwork
- Also consider how electronic payments will be made
- The window should be tall enough to maximize employee eye contact and avoid stooping

WHAT GOES IN THE SPECIFICATION?



Balance Between Open and Friendly and Food Safety and Security

- Large service openings look friendly and attractive
- Smaller service openings:
 - Provide security and staff safety
 - Conserve heating and cooling costs
 - Help preserve indoor staff and customer comfort
 - Help maintain food temperature for quality control

WHAT GOES IN THE SPECIFICATION?



Rough Opening vs. Service Opening: Single Panel Sliding Window

- Left: Rough opening $\frac{1}{2}$ inch larger than the frame size
- Right: Service opening, the area available for transactions

Single panel sliding window. One panel is fixed and one panel slides.

WHAT GOES IN THE SPECIFICATION?



Rough Opening vs. Service Opening: Bi-parting Window

- Left: Rough opening in bi-parting window
- Right: Service opening for bi-parting window

WHAT GOES IN THE SPECIFICATION?



Rough Opening vs. Service Opening: Walkup Ticket/Teller/Cashier Window

- Left: Walkup ticket/teller/cashier window
- Right: Service opening, large enough to pass through tickets, cash, etc.

WHAT GOES IN THE SPECIFICATION?



Rough Opening vs. Service Opening: California Retail Food Code

- Left: Rough opening in accordance with California Retail Food Code

CASE STUDY: STARBUCKS, DILWORTH PARK, PENNSYLVANIA



- Transom added to transaction window

WHAT GOES IN THE SPECIFICATION?



Trends in Rough Opening Size

- Surround transaction opening with glass sidelights and transoms
- Provides:
 - More open feel
 - More natural light
 - Pleasing architectural aesthetic

The background image shows a light-colored, possibly white, building facade. A large, semi-circular window is the central focus, reflecting a city street scene with buildings and trees. Below this window is a smaller, rectangular window with a white frame. The overall aesthetic is clean and modern.

SECTION 3

WINDOW DESIGN TYPE

WINDOW DESIGN TYPE



Flush Mount Design

- Blend seamlessly into the building's exterior
- Can easily accommodate exterior or exterior air curtains
- Large header accommodates operating system

WINDOW DESIGN TYPE



Low-Profile Window

- Refers to size of the header
- Most often used for interior applications
- Good for pharmacies and offices

WINDOW DESIGN TYPE



Bump Out Design

- Projects from building
- Offers panoramic view of cars and outside activity
- Can present challenges with condensation in cold weather

WINDOW DESIGN TYPE



Fixed Pane Window Design with Deal Tray or Transaction Drawer

- Fixed pane with speaker or speak-through opening
- Transaction happens via a service drawer
- Or transaction happens via a deal tray
- Offers most security and weather protection for the attendant

WINDOW DESIGN TYPE



Operable Window with Service Drawer Design

- Hybrid option: Operable window with service drawer
- Flexibility to transact face to face or lock window and serve through drawer

WINDOW DESIGN TYPE



Modular Specification

- Call out components individually
- Example of custom specification:
 - A transaction drawer
 - An intercom system or amplified speaker
 - A large plate of glass with a hole for the speaker system

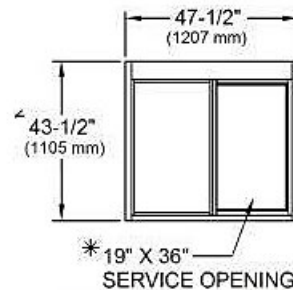
WINDOW DESIGN TYPE



Adding a Service Window for Walk Up patrons

- Adding a service window to in-line stores – or locations looking to reduce pressure on the drive thru lane.

WINDOW DESIGN TYPE



This was originally a response to dining room closures caused by Covid concerns and staffing shortages but now Walk-Up Service Windows are making their way onto many restaurants plans as a place for mobile order pick up / delivery service pick up.

WINDOW DESIGN TYPE



If retrofitting, it is best to have the **COMMERCIAL GLASS** contractor remove (2) sections of storefront and work around a standard size window vs customizing the window to fit existing storefront mullions.



SECTION 4

OPENING DIRECTION FOR SLIDING WINDOWS

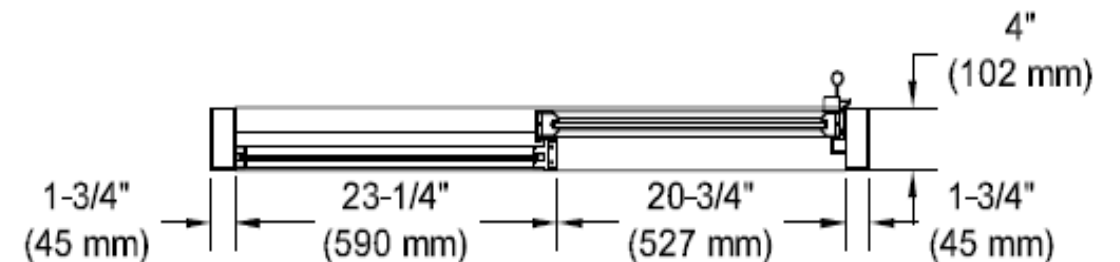
OPENING DIRECTION FOR SLIDING WINDOWS



Inside panel is operable –outside panels are fixed

Single Panel Slide Window

- Most popular for simple and economical functionality
- Specifier determines if operable window slides from left or right
- Important to clarify slide direction from inside view or outside view (not field reversible)



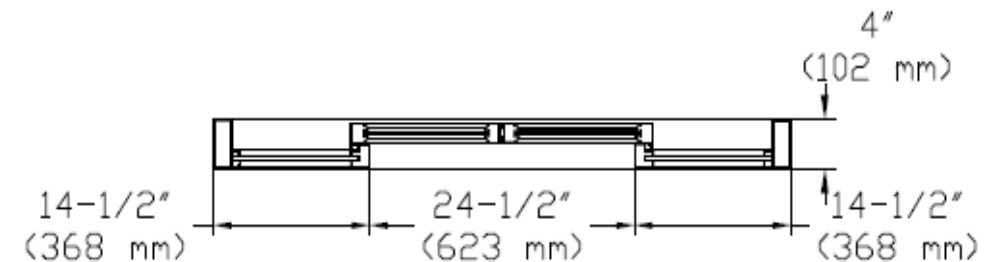
OPENING DIRECTION FOR SLIDING WINDOWS



Inside panels slide to the sides

Bi-Parting Slide Window

- Windows slide to the sides from the center
- No need to call out direction of slide
- More metal at eye level, which can interfere with visibility or eye contact when window is closed



OPENING DIRECTION FOR SLIDING WINDOWS

Bi-Parting Flip Window

- Windows flip open rather than slide open
- Options:
 - Out toward patron or car
 - In toward attendant
 - In toward attendant from outside edge to free up counter space
- Advantage: Allows for smaller rough opening
- Disadvantages: May inhibit counter space, traffic, and natural light



The background image shows a light-colored building facade with a large, circular window. The window reflects a city street scene with buildings and trees. Below the circular window is a smaller, rectangular window. The overall image has a clean, modern aesthetic.

SECTION 5

GLAZING OPTIONS FOR TRANSACTION WINDOWS

GLAZING OPTIONS FOR TRANSACTION WINDOWS



Single Pane Tempered Glass

- Four times stronger than annealed glass
- Fractures into small fragments when broken
- Trend toward more energy efficient glazing

GLAZING OPTIONS FOR TRANSACTION WINDOWS



Insulated or Insulated Low E Glass

- Dual pane with air space in between
- More comfort for operators
- Protects interior from UV degradation
- Transmits 64 percent less solar energy than clear insulated glazing
- Insulates as much as 50 percent better than standard clear insulating glass

GLAZING OPTIONS FOR TRANSACTION WINDOWS



Energy Efficiency Note

- Transaction windows are typically not held to the same energy building code standards as residential windows
- They are designed to open and close hundreds of times per day
- NFRC data may be available for architects to calculate building energy calculations

GLAZING OPTIONS FOR TRANSACTION WINDOWS



Bullet Resistant Lexan

- Bullet resistance is often required in:
 - Municipal projects
 - Schools
 - Convenience stores
 - Pharmacies
 - Dispensaries
 - Etc.
- UL 752 – Level I – UL Listed – File BP844. 9mm bullet resistance
- UL 752 – Level 3 – UL Listed – File BP844 .44 Mangum bullet resistance

GLAZING OPTIONS FOR TRANSACTION WINDOWS



Hurricane Glass

- To pass the Miami Dade large impact test:
 - A window has to survive a hit with a 9 pound 2-by-4 flying at 34 mph (50 feet per second)
 - Then forced to withstand 9,000 pressure cycles

The background image shows a light-colored, possibly white or light grey, building facade. A large, semi-circular window is the central focus, reflecting a city street scene with buildings and trees. Below this window is a smaller, rectangular window. The overall aesthetic is clean and modern.

SECTION 6

OPERATING SYSTEM

OPERATING SYSTEM



Manual Open/Manual Close

- Opened by hand
- Closed by hand
- Gives attendant total control over window

OPERATING SYSTEM



Manual Open/Self Close

- Opened by hand
- Closes automatically
- Gravity fed system with no electronics
- Most transaction windows self close for:
 - Security
 - HVAC control
 - Privacy
 - Food safety

OPERATING SYSTEM



Manual Open/Electronic Release

- Opened by hand
- Electromagnet holds the window open
- Closes when attendant steps out of presence sensor

OPERATING SYSTEM



Fully Automatic Open and Close

- Automatically opens
- Automatically closes
- Most expensive option
- Both of attendant's hands are free for service

The background image shows a light-colored, possibly white, building facade. A large, semi-circular window is the central focus, reflecting a city street scene with buildings and trees. Below this window is a smaller, rectangular window with a white frame. The overall aesthetic is clean and architectural.

SECTION 7

ACCESSORIES FOR TRANSACTION WINDOWS

ACCESSORIES FOR TRANSACTION WINDOWS



Air Curtain (Fly Fan)

- Protects the operation
- Makes staff more comfortable
- Satisfies health department codes for deflecting:
 - Insects
 - Car fumes
 - Dust

ACCESSORIES FOR TRANSACTION WINDOWS

Exterior Mount Air Curtain

- Easy to install in a retrofit
- Does not take in airborne grease or cooking moisture from inside
- Quieter for the attendant
- Drawbacks:
 - Generally not architecturally attractive
 - May be difficult to install a relay switch that integrates the window operation with the fan
 - Cannot provide radiant heat for the operator



ACCESSORIES FOR TRANSACTION WINDOWS



Interior Mount Air Curtain

- Easy to install in a retrofit
- Use inside conditioned air
- Drawbacks:
 - May be difficult to maintain in greasy environments
 - Air blows directly on attendant, affecting communications

ACCESSORIES FOR TRANSACTION WINDOWS



Transom Mount Air Curtain

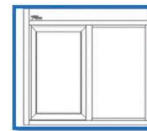
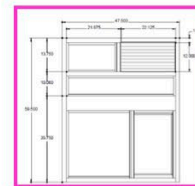
- Air flows on the outside of the window
- Sound does not interfere with customer or staff communication
- Controls are inside
- Drawback: Difficult to retrofit because it requires an opening in the building shell, so should be specified from the beginning

ACCESSORIES FOR TRANSACTION WINDOWS

Window / Air Curtain Configurations by Geographic Zone

MAP provided as a general guideline. Local codes/conditions prevail.

- Heated Air Curtain for cold zones—48" w x 60" h rough opening
- Non-heated Fly Fan for warm zones—48" w x 60" h rough opening
- Restricted opening for CA (health code)—48" w x 60" h rough opening
- Hurricane for coastal regions—48" w x 44" h rough opening



Use with Inside Mount DTU

Air Curtain Configuration Climate Map

- Determine the proper air curtain configurations for various climates
- Designed for use by world's largest burger chain
- Picked up by many other national chains

ACCESSORIES FOR TRANSACTION WINDOWS



Security Bars

- Will prevent and discourage after hours break-ins
- For more security, a telescoping bar set is visible from the outside
- Mounted bars telescope and padlock into place when service window is closed

ACCESSORIES FOR TRANSACTION WINDOWS



Indoor/Outdoor Shelves

- Handoff shelf useful addition to flush mount transaction window
- Outside as serving area
- Or inside as work or staging area

ACCESSORIES FOR TRANSACTION WINDOWS



Window Sneeze Guards

- Specify temporary acrylic if they are a response to Covid or made from glass if they are permanent
- Permanent applications may be desired for security, preventing hvac loss, CA retail food code, or for ongoing social distance
- Consider the height of the product or material being passes through when specifying

ACCESSORIES FOR TRANSACTION WINDOWS



https://www.ready-access.com/shop/?product_cat=accessories&source_id=98&source_tax=product_cat&filter_window-design=transaction-window-with-security-drawer

Transaction drawers mounted thru wall under the window:

- Traditionally used in banks/pharmacies, but making their way into many types of municipal buildings (e.g., schools/buildings where you pay taxes or utility bills / guard shacks)

CONCLUSION



While the average person doesn't give much thought to transaction windows, they are in fact a major part of modern life. We use them to receive food, medicines, money, tickets, and other items. For the employees on the other side, transaction windows provide functionality, comfort, and safety. Transaction windows can be customized and accessorized to perform well in special circumstances such as hurricane zones, high-crime areas, hot or cold or windy climates, and in other situations both indoors and outdoors. As drive through functions are added to more and more businesses and establishments, the architect or designer will be called upon to understand how transaction windows operate and how to they can be correctly specified for each application. The need for this knowledge will surely grow in the future.

THANK YOU



Thank you for your interest in Ready-Access. This concludes the American Institute of Architects Continuing Education Systems Course.

Please contact Ready-Access directly if you have any questions about the material presented in this course.

www.ready-access.com

Please take the following quiz for your AIA credits.

REFERENCES

<https://www.qsrmagazine.com/reports/drive-thru-2016-dunkin>