Foodservice Facilities
Planning, Design & Layout
The Project Planning Team

- Owners
- Food service manager
- Architect
- Food facilities consultant
- Interior designer
- Graphics designer
- Lighting consultant
- Acoustical engineer
- Landscape architect
Scope of a Project

- **Level I**
  - Equipment addition/replacement or renovation of small area
    - Example: new dish machine
- **Level II**
  - Renovation of a significant portion of a facility
    - Example: renovation of serving area
Scope of a Project

- Level III
  - Complete renovation or new construction of a facility
- Level IV
  - Development of a prototype restaurant for a chain
# Professionals Involved in a Project

<table>
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<tr>
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Concept Development

- The overall plan for how the operation will meet the needs and expectations of the target market
  - Concept is expressed in many ways, including menu, theme, décor, hours of operation, form of service, pricing, and location
  - Examples of broad concepts include fine dining, theme, casual, ethnic, family

- Concept development is critical for design because it provides direction to planners – and it is critical for operational success as well!
Outside Factors

- Legislation and public policy can affect the design and layout.
  - ADA
  - OSHA
  - Municipal codes:
    - Plumbing
    - Electrical
    - Fire
    - Health
The Five “M”s of Concept Development

- SUCCESS
- MARKET
- MANAGEMENT
- METHOD OF EXECUTION
- MONEY

Diagram:

- MENU
- MONEY
- METHOD OF EXECUTION
- MARKET
- MANAGEMENT

Arrows connect each element to SUCCESS, indicating their interdependence in achieving success.
The 5 “M”s: Market Questions

- To whom is the food operation being marketed?
- Is the market large enough to generate sales and produce a profit?
- How will the market be identified?
- What method will be used to communicate to this market?
- Will the potential customer want or need the food product?
- Will a quality assurance plan be developed that will encourage the customer to return because of superior service and/or product quality?
- Will internal marketing successfully sell the customer additional services or products after he or she arrives at the food facility?
The 5 “M”s: Menu

- Has an impact on:
  - Amount of space required for storage (dry, refrigerated) and food preparation
  - Service area size and design
  - Types and capacities of cooking equipment
  - Size of the dishwashing operation
  - Number of employees

- And, through these factors, menu affects the construction cost of the facility
The Five “M”s: Money

- The Investment Decision
  - Will the operation generate a financial return that meets the objectives of the investors?

- The Financing Decision
  - How will the funds to build the facility and capitalize the operation be obtained (debt, equity)?

- A two-step process
  - Estimating the necessary investment and identifying sources; then, when design is complete and actual costs are known, securing commitments from investors
The Five “M”s: Management

- Who will operate the facility, and what skills and experience must he/she have?
- Will the facility be self-operated, or will a contract management firm be involved?
- How will the operation be organized (roles and responsibilities for each position)
- How will staffing during long hours of operation be handled?
- How will compensation be structured?
The Five “M”s: Method of Execution

- Production approach
  - Cooking “from scratch” or using “convenience” (partially prepared) items

- Control systems
  - Production management systems (menu, recipe, inventory, costing); sales management systems (cash control); service systems (reservations)

- Personnel systems
  - Labor staffing and scheduling, time keeping, payroll
Feasibility: Two Related Approaches

- **Market Feasibility**
  - Will the sales revenues be great enough to generate a reasonable profit?
  - Emphasis on the Income Statement and revenue sources

- **Financial Feasibility**
  - Will the profits generated by the operation be sufficient to satisfy investors’ expectations for financial return?
  - Emphasis on the Balance Sheet and retained earnings
Market Feasibility

Factors Specific to Potential Sites
- Traffic Counts
- Proximity to Demand Generators
- Competitive Analysis

Initial Sales Projections

General (Community-Level) Factors
- Demographic Data
- Economic Conditions

Economic Conditions

Demographic Data
Calculating Projected Sales

- Estimate Customer Counts & Capacity
  - Number of seats X turnover for each meal period

- Estimate Average Check
  - Using menu mix and price projections

- Multiply Customer Counts by Average Check

- Sum up to Projected Sales Revenues
Financial Feasibility: Balance Sheet

- **Estimating Assets**
  - Operating capital
  - Accounts Receivable
  - Land, Building, Furniture & Fixtures
  - Inventory (food & supplies)

- **Estimating Liabilities**
  - Accounts payable
  - Short-term debt
  - Long term debt
  - Owners’ Equity
Financial Feasibility: Income Statement (Pro Forma Profit & Loss)

- Estimates of the following:
  - Cost of goods sold, involving menu pricing and recipe costing
  - Labor costs, involving projections of staffing levels, wages and salaries, benefits
  - Marketing Costs
  - Utilities
  - Occupancy Costs (example: rent)
  - Repairs and Maintenance
  - General and Administrative

- These estimates result in a projected Profit (Loss) for the operation
Why Feasibility Analysis?

- The net income – “the bottom line” – from the income statement is transferred to retained earnings on the balance sheet.
- Investors receive return on their investments through either dividends paid from retained earnings or through growth in the value of their equity.
- Market and financial feasibility studies work together to demonstrate that investment in the foodservice facility will generate the desired financial return.
Why Does Feasibility Matter for Design?

- The Go/No-Go Decision
  - Money should not be invested in design without the expectation that the facility is financially viable

- Determining the Capacity of the Facility
  - Designers need to know how large the facility should be – the number of seats, the size of the kitchen and storage areas – in order to design the facility
Impact of Design

- **On Safety**
  - Design can support safe and sanitary food handling, thereby reducing the risk of food born illness
  - Design can prevent employee injuries by providing a safe work environment

- **On Efficiency**
  - Labor costs are between 25% and 40% of operating expenses
  - Design can reduce labor requirements, reducing expenses and providing competitive advantage
  - Design can reduce food costs, strengthening the bottom line
Design Principles

“Goals” for good design that professionals seek to achieve in their work

Designers weigh these principles

- When locating functional areas within the building
- Laying out equipment
- Designing custom fabricated items
Design Principles

- Understanding the principles of design is “the price of admittance” to participation on the project team as an informed owner’s representative.
Foodservice Layouts

- Varied and diverse as the industry itself
- Diversity based on
  - Type of operation and its objectives
  - Menu
  - Location
  - Equipment
  - Storage, production, service
  - Budgetary constraints
  - Clientele
  - Personnel
Management’s Role

- Facility planning and design are among the responsibilities of the manager.

Range of responsibilities

- Planning a new foodservice facility
  - Expansion – total new construction
- Remodeling a facility
- Minor changes in facility
  - Storage
  - Production
  - Service
  - Dining
The Goal of Layout Analysis

- Layout
  - The process of arranging physical facilities, including equipment

- The goal in a layout analysis is to get a detailed and intimate concept of work that is to be done in the proposed foodservice facility
Identify Relationships

- Important to view each action and its relationships
- Identify how, when, where, and why the action is to be done
Identify the Relationships

- How can the method be improved or the motion shortened?
- What equipment should be used and how should it be located to give efficiency?
- What should be the location of work areas to promote a smooth operating system?
Three distinct parts in a layout

- Work Centers
- Sections
- Total Layout
Work Centers

- Areas where a group of closely related tasks are done by an individual or individuals
- A bakeshop area is a mixing center, a panning center, and a baking center
Sections

- A group of related work centers in which one type of activity occurs
- The work centers described earlier are joined together to make the Bakery Section of the kitchen
The Total Layout

- Centers are combined to form sections, and sections are joined to make up the complete plan or layout
The Flow of Work

Eight basic rules in establishing flow in work centers, sections, and layout

1. Functions should proceed in direct proper sequence, with a minimum of crisscrossing and backtracking
2. Smooth rapid production and service should be sought, with minimum of expenditure of worker time and energy
3. Delay and storage of materials in processing and serving should be eliminated as much as possible
(4.) Workers and materials should travel minimum distances
(5.) Materials and tools should receive minimum handling, and equipment should receive minimum worker attention
(6.) Maximum utilization of space and equipment should be achieved
(7.) Quality control must be sought at all critical points
(8.) Minimum (but appropriate) cost of production should be sought
Work Areas

- All depend on operating system, volume, menu items & purchase form of foods
  - Receiving
  - Storing & Issuing dry/refrigerated items
  - Pre-preparation
  - Preparation and cooking (production)
  - Food assembly/serving
  - Ware washing
  - Support services
Support Services

- Employee needs
  - Hand washing sinks, lockers, restrooms
- Office space –visibility, access
- Custodial closet –supplies, carts
- Trash and food waste disposal
- Dining areas –know your customers
Preparing for facility planning

- Study trends
- Learn what is new in design & equipment
- Obtain and be familiar with codes, regulations, and licenses affecting operation
- Know special requirements for specific types of foodservices
Study Layout trends

- Change in patterns of dining out
- Changes in desired menu items
- Advances in food & equipment technology
- Economic factors—food, labor, utilities
- Flexibility of use—multiple use, future plans
- Shortage of skilled workers
- Energy conservation
- Environmental concerns—water, waste removal
What’s New in Design & Equipment

- Visit new or remodeled facilities
- Review and file catalogs and equipment specification sheets
- Talk to equipment company representatives & design consultants
- Attend trade shows
- Read trade journals
- If remodeling, consult current staff
Know those Regulations

- Must know federal, state, & local laws, codes and regulations affecting building or remodeling
  - Zoning & building standards
  - Electrical wiring and outlets
  - Gas outlets and installations
  - Health, fire, and safety codes
  - Sanitation standards – water & waste
  - Installation of heavy equipment
Special Considerations

- Commercial
- Downtown/suburban/hotel or motel
- Schools
- Universities
- In-plant facility
- Adult & child communities
- Hospitals & healthcare
- Correctional facilities
Kitchen Planning

- Involves the allocation of space based on:
  - Equipment needs
  - Spatial relationships
  - Efficient traffic flows
Design Principles: Flexibility & Modularity

- **Flexibility to accommodate:**
  - New menu items
  - New methods of preparation
  - New equipment items
  - New methods of service

- **Achieved through Modularity:**
  - Standard sizes of equipment
  - Standard utility connections
  - Ease of removal and replacement
Examples of questions for design professionals that point to flexibility and modularity:

- If I need to add equipment, where will it go?
- Is there extra space under the hood for new equipment that requires ventilation?
- Is there extra capacity in the utility systems for new equipment?
- Are there connections reserved for future equipment purchases?
- How easily can the equipment be moved to a different location?
- Can this equipment easily be replaced with a comparable model from another manufacturer?
Design Principles: Simplicity

- Examples in Equipment:
  - Clean, uncluttered lines
  - Avoiding unnecessary accessories
  - Simple to operate
Design Principles: Flow of Materials and Personnel

- **Examples:**
  - Movement of employees from one functional area of the kitchen to another
  - Flow of raw food from the dock, to storage, to preparation, and to service
  - Flow of dishes through the dishwashing system and back to the service area
  - Flow of customers from the entry of the facility to the dining area
Following the Flow

- Cannot assume staff will understand or obey the design and layout intent.
  - Worker may implement their own accommodations to satisfy their needs
Flow Of Materials And Personnel In A Foodservice Operation
Design Principles: Ease of Sanitation

- Examples:
  - Building finishes (walls, floors, ceilings) that are easily cleaned and sanitized
  - Providing and arranging work area so that cross contamination between raw and cooked products is unlikely
  - Using wall-hung equipment and locating utility services in the walls, so that floors are free of clutter
  - Garbage disposals in preparation areas to simplify waste disposal
Design Principles: Ease of Supervision

Examples:

- Locating the Production Office with lines of sight to the preparation areas (rather than the back door)
- Minimizing the number of walls and partitions between functional areas
- Where interior walls are necessary, as between two banks of equipment, use half-height rather than full height walls
- Avoid separating by floor (eg service areas on one floor, and preparation below)
Design Principles: Space Efficiency

- Space efficiency means “just right!” –
  - Not too large, because that wastes steps
  - Not too small, because that causes crowding, injury, and cross-contamination
The cost of a design solution or an item of equipment is not the purchase price, but the overall cost of ownership, including:

- Operational costs
- Maintenance Costs
- Labor costs to operate
- Lifetime (how long it will last)
Design Principles: Compromise

- In the process of design, conflict is inevitable and compromise is necessary.
- Budget and space constraints are frequent causes of conflict.

Examples:
- A power potwashing system would save labor over the long term (lifetime value), but cost five times as much as a standard potsink.
- A large, comfortable, employee break room would improve morale but require space needed for food storage.
Human Engineering: Efficient Work Space

Factors to consider:

- The number of people working in the space
- The amount and type of equipment
- The clearance required for equipment doors
- The type of food being processed
- The amount of space needed for storage
Human Engineering: Adequate Aisle Space

- Single aisle with limited equipment
  - 2 feet 6 inches to 3 feet 0 inches (76 to 91 m)

- Double aisle with limited equipment
  - 3 feet 6 inches to 4 feet 6 inches (11 to 14 m)

- Single aisle with protruding equipment
  - 3 feet 6 inches to 4 feet 6 inches (11 to 14 m)
Human Engineering: Adequate Aisle Space

- Double aisle with protruding equipment
  - 4 feet 6 inches to 6 feet (14 to 18 m)

- Aisle with little traffic
  - 3 feet 0 inches to 4 feet 0 inches (9 to 12 m)

- Aisle with major traffic
  - 4 feet 0 inches to 6 feet 0 inches (12 to 18 m)
Human Engineering: Work Surface Height

Work surface height is typically 34” – 36” – note how cutting boards and floor mats change working heights.
Human Engineering: Work Spaces
**Human Engineering: NSF Standards**

- **Food contact surfaces**
  - Surface materials in the food zone shall be smooth, corrosion resistant, non-toxic, stable, and nonabsorbent under use condition
  - They shall not impart an odor, color, taste, or contribute to the adulteration of food

- **Splash contact surfaces**
  - Shall be smooth, easily changeable, and corrosion resistant or rendered corrosion resistant with a material which is non-cracking and non-chipping

- **Nonfood contact surfaces**
  - Shall be smooth, corrosion resistant or rendered corrosion resistant
Human Engineering: Tools and Utensils

- Provide the right tools, particularly for moving materials, to prevent injuries
  - Hand trucks, carts, racks, etc
- Specify heavy-duty carts and racks because they are often abused
- Locate tools and utensils where they will be needed for work processes
- Design “parking spaces” for racks and carts adjacent to work areas so that they do not have to be staged in aisles
## Human Engineering: Lighting Requirements

<table>
<thead>
<tr>
<th>SPACE</th>
<th>FOOT CANDLES</th>
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<tbody>
<tr>
<td>Kitchen Work Area</td>
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<td>Storeroom</td>
<td>10 - 20</td>
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<td>Cashier</td>
<td>50 – 60</td>
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<td>Loading Platform</td>
<td>20 – 25</td>
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<td>Building Entrance</td>
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<td>Hotel: General Guest Areas</td>
<td>10 – 20</td>
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<td>Accounting and Bookkeeping Offices</td>
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<td>Dining Rooms</td>
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<td>Quick Service</td>
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<td>Casual Dining</td>
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<td>White Tablecloth</td>
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Human Engineering: Temperature & Humidity

- **Key area for controlling temperature:**
  - Cooking lines by range sections
  - Adequate ventilation hoods are necessary to remove heat generated by equipment

- **Key area for controlling humidity:**
  - Dish room, where moisture from the dish machine makes employees uncomfortable, creates slick floors, and prevents quick air-drying of dishes
  - Adequate room ventilation is necessary to control humidity
Human Engineering: Noise Control Strategies

- Sound-deadening underside tables and counters
- Separation of areas (other than production)
- Sound barrier between dish drop-off points and ware washing
- Acoustic ceilings that are grease- or moisture-resistant
- Carpeting in dining rooms in the seating areas
- Double doors between the dining room and the kitchen
- Background music in both the public areas and the back of the establishment (kitchen, warewashing area, service areas)
- Remote refrigeration compressors
Examples of Requirements

- **53  Aisle Width:** All accessible fixed tables shall be accessible by means of an access aisle at least 36 inches (915 mm) clear between paralleled edges of tables or between a wall and the table.

- **54  Dining Areas:** In new construction all dining areas, including raised or sunken dining areas, loggias, and outdoor seating areas shall be accessible.

- **55  Foodservice Lines:** Foodservice lines shall have a minimum clear width of 36 inches (915 mm), with a preferred clear width of 42 inches (1065 mm) to allow passage around a person using a wheelchair. Tray slides shall be mounted no higher than 34 inches (865 mm) above the floor.
Space Analysis

- What are the general requirements for each functional area?
- How large should each functional area be?
- How should the functional areas be arranged in relation to each other?
- What special design features are necessary in each area?
Receiving

General description of space:
- Major ingress/egress for people, delivery trucks and service vehicles
- Trash and garbage storage areas
- Consideration should be given to screening the area from public view

Relationship to other areas:
- Primary to storage areas
- Others include kitchen and sanitation
Receiving

- **Amount of space needed:**
  - Varies with
    - The volume of food to be received
    - Frequency of deliveries
    - Distance to storage areas
  - Often too much space is provided
Receiving

- Special design features:
  - Height, length and depth
  - Control and security
  - Protection from weather
  - Scales and material handling equipment
Dock Area – Space Requirements

A small foodservice operation served entirely by small delivery trucks requires far less space for receiving than does a large operation served by semi-trucks.
Storage

- Amount of space needed:
  - Dry storage
    - Difficult because of the many variables that effect the need
  - Paper and cleaning supplies
    - Can be major space problem for operations the use large quantities of disposable wares
    - Cleaning supplies must be stored separately
  - Refrigerated and frozen storage
    - Based on the menu and frequency of delivery
  - Utensil and cleaning equipment storage
## Dry Storage Space Requirements

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<th>Type of Food Operation</th>
<th>Square Feet</th>
<th>Square Meters</th>
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<tr>
<td>Fast food</td>
<td>50–125</td>
<td>(465–1163)</td>
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<tr>
<td>Small restaurant</td>
<td>100–150</td>
<td>(930–1395)</td>
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<tr>
<td>Medium restaurant or small institution</td>
<td>200–300</td>
<td>(1860–2790)</td>
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<tr>
<td>Large restaurant or medium institution</td>
<td>400–1,000</td>
<td>(3720–9300)</td>
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<td>Large institution with simple menu</td>
<td>1,000–2,500</td>
<td>(9300–23250)</td>
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<tr>
<td>Large hotel, restaurant, or institution</td>
<td>3,000 +</td>
<td>(27900+)</td>
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Comparing Dry Storage Spaces

96 square feet for a very small restaurant

The larger space has about four times as much usable shelving as the smaller space

350 square feet for a medium to large restaurant
Office

- General description of space:
  - Needed for managers, chefs and clerical staff.

- Relationship to other areas:
  - Manager and sales should be accessible to the public.
  - Space for others should be in their respective areas.
Office

- **Amount of space needed:**
  - Small offices range from 60 to 90 feet.
  - Additional space needed for copiers, computers and other equipment.
  - Number, size and layout dependent on complexity of the operation.

- **Special design features:**
  - Lighting, carpeting and ceiling tiles.
  - Location of telephone and electrical outlets.
This small office, 64 net square feet, is functional for managers who need a place for quiet work and a place to speak privately with employees.
Preparation Areas

- **General description of space:**
  - Four general areas:
    - Pre-preparation
    - Hot food preparation
    - Cold food preparation
    - Final preparation

- **Relationship to other areas:**
  - Storage
  - Pre-preparation
  - Final preparation
  - Service
Flow and Spatial Relationships for Preparation

Raw food flows from storage to pre-prep, then to final preparation (hot and cold), and finally to service.

These functional areas need to be located adjacent to one another, following the flow of food products, for efficient design.
Preparation Areas

- **Amount of space needed:**
  - Space dependent on:
    - Number of items on the menu
    - Number of different forms of final preparation
    - The use of convenience foods vs. scratch cooking
    - The complexity of the preparation required
    - The number of foodservice functions supported by a single kitchen

- **Special design features:**
  - Areas continually subject to heat and soiling
  - Ventilation
Pre-Preparation

- General Description
  - Where foods are processed, mixed, combined, held, cleaned, or otherwise made ready for final preparation
  - Typically occurs prior to the meal is served

- Relationship to Other Areas
  - Storage areas
  - Final Preparation (Hot Food)
Pre-Preparation Area for Small Restaurant

This pre-prep area requires about 225 square feet, and is adequate for a medium sized restaurant or small institution.
Final Preparation

- General Description
  - Frying, steaming, broiling, grilling, and other processes adding heat to the food
  - Typically occurs as the meal is served

- Relationship to Other Areas
  - Pre-preparation
  - Storage for “directs” (items that go directly from storage to final prep, such as steaks, chops, frozen french fries)
This hot food preparation area for a small restaurant has a chef’s table, reach-in freezer, fryers, grill, char broiler, and range. It requires approximately 300 square feet (20 x 15).
Employee Locker Room & Toilet

- General Description
  - Rest Rooms for employee use
  - Secure storage for employee belongings

- Relationship to Other Areas
  - Can be relatively separate from other functional areas
Baking

- General Description
  - Produces baked goods, such as rolls, muffins, cookies, cakes, pastries, and similar items

- Relationship to Other Areas
  - Pre-preparation
  - Can be relatively separate from other functional areas
  - Requires dry and refrigerated storage
  - Locating the bakery near customers can increase sales
Baking Area

This baking area is about 17’-6” long by 9’-6” wide, or 166 square feet. It is designed to prepare cakes, pastries, rolls, muffins, and similar items, including those that “rise” (use yeast).
Service Areas

- General description of space:
  - The service area and type of service planned will be among the first decisions made during the concept development stage.

- Relationship to other areas:
  - Primary relationship to the hot and cold food production areas.
  - Primary also to warewashing, dining room, customer entrances and cashier.
  - Secondary to storerooms, offices and cleaning supplies
Service Areas

- Amount of space needed:
  - Variations in size and type make it difficult to develop a standard space requirement.

- Special design features:
  - Dependant on the size and type of foodservice facility
Service Types

- Table service restaurant
  - Kitchen pickup station
- Snack bar
  - Service counter direct to customer
- Fast food
  - Service counter direct to customer
- Cafeteria
  - Straight-line cafeteria
- Delicatessen
  - Deli counter

- Buffet
  - Buffet line
- Scramble
  - Separate food stations
- Food court
  - Separate food locations around a common dining area
- Tray Service (Health Care)
  - Cold and hot carts rolled to patient room
Dining Rooms

- General description of space:
  - An environment that is pleasant and lends itself to an enjoyable dining experience should be the goal.
  - Ease of cleaning must be considered.
  - Other factors include:
    - HVAC
  - View
    - Sound Control
    - Server stations and cashier
    - Lighting
Dining Rooms

- Relationship to other areas:
  - Must be directly connected to service areas and the kitchen

- Amount of space needed:
  - Proper size can be calculated once it is decided how many customers the facility will seat.
  - Dining room size, kitchen size, restroom capacity and parking lot size are affected by seating capacity.
  - Accommodation determined by space occupied by tables and chairs and turnover.
Dining Service and Square Feet Per Seat

- **Form of Service**
  - Table Service
  - Moderate Table Service
  - High Table Service
  - Luxury Booth Service
  - Banquet
  - Fast Food

- **Square Feet/ Seat**
  - 12 – 14
  - 13 – 16
  - 16 – 20
  - 12 – 14
  - 10 – 12
  - 9 – 11
Bar

- Amount of space needed:
  - Space needed for the bar itself
  - Bar support area
  - Amount of seating to be located at the bar

- Special design features:
  - Visual characteristics important in creating an atmosphere that supports the concept
Warewashing

General description of space:
- WET
- Receives more wear and abuse than any other section of the facility
- Health department requirements very stringent.

Relationship to other areas:
- Primary to the dining room
- Close working relationship to the kitchen
Warewashing

- Amount of space needed:
  - Machine ratings based on the number of 20 x 20 racks processed per hour.
    - Factor of 70% used for efficiency
  - Space required for 3 compartment sink with drain boards.

- Special design features:
  - Circulation of air for removal of moist air
    - Ventilation hoods often inadequate
Ware Washing Space Requirements

Space requirements for dish rooms are a function of the number of dishes per hour to be washed and the type of machine:

<table>
<thead>
<tr>
<th>MACHINE TYPE</th>
<th>Dishes/Hour</th>
<th>SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-tank dishwasher</td>
<td>1,500</td>
<td>250</td>
</tr>
<tr>
<td>Single-tank conveyor</td>
<td>4,000</td>
<td>400</td>
</tr>
<tr>
<td>Two-tank conveyor</td>
<td>6,000</td>
<td>500</td>
</tr>
<tr>
<td>Flight-type conveyor</td>
<td>12,000</td>
<td>700</td>
</tr>
</tbody>
</table>
This is a very small dish room for a small foodservice operation; it uses only 175 square feet. It uses a single tank, door-type dish machine.
This dish room uses a two-tank rack conveyor machine. It requires 525 square feet, including drop off space in front of the soiled dish table.
This dish room uses a carousel type dish machine with two tanks. It requires 550 square feet of space.