

DESIGN FOR A
TERMINAL PASSENGER STATION.

THESIS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN THE SCHOOL OF ARCHITECTURE.

.. BY ..

H. J. GREEN.

UNIVERSITY OF ILLINOIS.

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Introduction.

The following article upon the requirements and planning of terminal passenger stations is not intended to apply to the accompanying plans and elevation in more than a general way, but rather treats of the typical terminal station that will answer all, or nearly all, the requirements of a modern railroad in its numerous and varied details.

The material here given has been collected principally from a personal inspection of various depots in the city of Chicago, from "Berg's Building and Structure of American Railways", and from side references from the latter work to articles in the "Railroad Review", "Railroad Gazette", "Engineering", "Engineering News", and other similar publications.

General Considerations.

Terminal passenger depots are buildings erected for the accommodation of the passenger service, and for the transaction of all business connected with the railroad such as would of necessity be required at the terminus of the railroad.

From this it follows that such depots are usually built in large cities or towns, at ferry terminals, or at important junction points of several railroads.

The nature of the business transacted in a terminal station requires that the building answer the purpose not only of a passenger depot, but that of an office building as well.

Relative to the general style and size of building, the choice will depend largely upon the proposed location with reference to the topographical features of the site, the amount and shape of land available, location and elevation of tracks with reference to neighboring streets, the facilities required, and the importance of the locality.

In view of the possible increase of the business of the road due allowance should be made for an extension of the building at some future time, thus necessitating a larger site than would apparently be needed at first.

The style of architecture to be adopted for this class of building will depend, more or less, on the importance of the station,

the surroundings, the prevailing class of architecture, and the building materials in general use in the locality.

The style should be such however as to give the building broader and grander lines than local depots, presenting a bold and prominent front, relieved however, by suitable disposition and division of wall surfaces, roof-lines and other details, without detracting from the general features of the design as a whole.

While the purely architectural features are of course to be given due importance, they should not be given precedence over the requirements and conveniences of good floor plans.

Classification.

Terminal passenger stations can be divided in general into two classes, head terminals and side terminals.

Head terminals are built directly across the end of the tracks and are usually in general form an L or a U, according to whether one or two wings are carried back from the head house along the sides of the tracks. In this class of depot, none of the tracks are carried past the building.

Side terminals differ from the above in that one or more of the tracks are continued past, in which case buildings are often built on both sides of the tracks for the business of the express and baggage departments, etc.

In either of these two general classes of passenger stations, the facilities and accommodations, that have to be provided to a greater or less extent according to the needs in each particular case, and which are actually found in use in terminal stations in this country, are as follows, grouped to the various branches of the service:

I.- Passenger Service.

Waiting rooms, consisting of a general waiting room, gentlemen's waiting room, ladies waiting room, ladies parlor, reading room, smoking room.

Ticket office, with ticket windows leading to a vestibule, or to general waiting room, or to one or more waiting rooms; ticket agent's private office and vault, and ticket office for sleeping or palace car service.

Dressing room, toilet room, and lavatory for ladies.

Toilet room, barber shop, and boot-black stand for gentlemen.

Public telegraph, telephone, messenger service, U.S. mail-box, and express office.

Parcel, hand-baggage, or coat-room.

Bureau of information, time-table, newspaper and book stand.

Cigar, fruit, candy, and soda-water stand.

French counter, preferably on the first floor, while general and private dining rooms may be located on first or second floor.

In connection with these rooms will necessarily be found such rooms as kitchen, pantries, serving-rooms, store-rooms, refrigerator, dumb-waiters, elevators for supplies, etc.

Sleeping quarters for manager and help.

Reception room for conferences, or for receiving prominent travelers.

Carriage, cab, and omnibus stand or court with agent's office and room for hack-men.

Entrance vestibules, lobbies near trains for the congregating of out-going crowds, and departure platforms.

Arrival platforms and exits for incoming travelers.

Elevators for passengers, or at least for invalids, where the track is not on the same level with the street.

II.- Baggage, Express and Mail Service.

Baggage-rooms, consisting of separate rooms for incoming and out-going baggage, store-room for lay-over transfer or unclaimed baggage, truck stand, together with an office or offices for baggage master, clerks, porters and others, also necessary platform frontage for receiving and delivering baggage to and from wagons.

Same as above for express.

U. S. mail room, consisting of one room, or separate rooms for "in" and "out" mail.

Rooms for custom house officers, if depot is located at fron-

tier, with detention and private searching rooms.

Room for dead bodies.

III.- Station Service.

Gate-keeper's office and porters' room.

Conductor's report room, trainmen's room, and sleeping quarters for trainmen.

Room for station police or road detective service.

Physicians' room with small ward for emergencies.

Room for car-inspector, car-cleaners, janitor, watchman.

Engine room, engineers' room, pump, dynamo, boiler and heater rooms with necessary store rooms for fuel, oil, etc.

IV.- General Offices

President's offices,-	Private, general and clerks.
Vice President's offices,-	" " " "
Treasurer's "	" " " "
General Superintendent and Assistant's offices,-	" " " "
General Passenger Agent and Assistants' offices,-	" " " "
	and ticket case room.
Tariff freight offices,-five to six rooms.	

Auditing Department,- Separate or combined to accommodate traveling auditor, auditor of freight receipts, auditor of passenger receipts, and auditor of disbursements.

Rooms for foreign representative and chief special agent.

Superintendent of Machinery,- Private and draughting rooms.

Architectural and Map Department, " " " "

Bridge engineer,- " " " "

Legal Department,- two to three law offices, library, consultation room, and claim department.

Road surgeon,- private and general office.

Office of superintendent of terminals.

General Requirements of Planning.

The general waiting-room should be made the chief feature of a group of waiting rooms and should preferably be located in the central portion of the head house in case the building is a head terminal, or in the front corner in case of a side terminal. This arrangement brings the main passenger traffic to outgoing trains through this room and avoids intrusion into the ladies or gentlemen's waiting rooms. This general waiting room should contain the various rooms such as news-stand, information bureau, telegraph and telephone office, confectioner's stand, etc., that are used most by the general public and it should also be accessible to the greater number of windows of the ticket office.

In case of a very large station a special waiting room for gentlemen is provided in addition to the smoking room, otherwise the general waiting room is utilized for the gentlemen's waiting room. In either case the room is best placed on the opposite side

of the general waiting room to that occupied by ladies, and is best provided with an exit directly into a corridor or to the street in addition to the one leading to the general waiting room.

The ladies' apartments, consisting of a waiting room, parlor, and often a reading room, should be made as cozy and homelike as possible by the introduction of such features as fireplaces, pleasing decorations, and comfortable furnishings. This should be especially true of the ladies' parlor. The ladies' waiting room proper should have windows opening to the ticket office and baggage rooms independent from the general waiting room.

The baggage rooms should be so located that the moving of baggage to and from trains and wagons should not interfere to any great extent with the passenger traffic. Since the outgoing baggage remains in the depot for but a comparatively short time, as compared with the incoming, this room may be made smaller than the other. For convenience, the baggage rooms are best grouped together and connected with the mail and express rooms.

The dining room, lunch counter or restaurant rooms are best placed on the ground floor so as to be most accessible during the rush between train times, especially if the depot be placed at a regular meal station on the road. Where space is limited on the first floor, the dining rooms are not objectionable on the second floor. In addition to these two rooms others may be added for the

exclusive use of officials, private parties, ladies, and also for emigrants. In connection with this department it is customary to provide rooms in the building, usually on the upper floors, for the use of the needed help employed.

In planning the arrangement of the general offices it is best for the facilitating of business to group together as closely as possible those separate offices, or groups of offices, which, from the nature of their work are most intimately connected. Private offices should be arranged to open off general and clerks' offices rather than from main corridors. Those departments using draughting rooms are preferably located on the upper floor to get the full benefit of such additional light as is obtainable through skylights. The boiler, dynamo, heater and fuel rooms are best located in the basement, or cellar in case the first floor is at grade.

All the above mentioned rooms should conform to the best requirements in respect to lighting, ventilation, means of access, floor space, etc. The item of floor space, especially with reference to the waiting rooms, will of necessity vary greatly with the importance of the station, amount of traffic, etc.

The handling of crowds with rapidity and without confusion requires that there shall be suitable gates separating the depot from the tracks, and still more important, that there should be special exits from trains to the principal street or streets without passing

through any of the waiting rooms. This may be accomplished by means of sub-ways as used in the Illinois Central depot at Chicago, but this plan is objectionable on account of climbing up and down stairs and a better way is to have the exits through arched corridors at grade.

Should the dining room or other public room be located on the second floor it is essential to have a suitably large stairway leading from the general waiting room or principal vestibule or corridor to the second floor. Elevators should be arranged for the use of offices on the upper floors and in addition one or more stairways should connect the upper floors with the street.

Store rooms, bath, lavatory and toilet rooms must be worked in to the general plan in the best manner possible, care being taken with respect to toilet rooms not to have them open directly out of main waiting room, and in case of the gentlemen's toilet, it is best to have a direct connection with the street also.

Essential to a station of this class is a large train-shed varying in width and length according to the number of tracks desired and should naturally form a part of the depot design. The principal points to be observed in a trainshed are that it shall be well lighted and ventilated, free from all unnecessary supports and that the width should be such as to allow abundant room for waiting crowds behind the gates, and platforms between tracks at least

twelve feet in width. In respect to the safety of passengers crossing tracks at grade the head terminal station affords the best conditions as compared with a side terminal, in that no crossing of tracks is necessary at all.

Relative to the general construction and materials for a building of this character, the cost of it, and the necessary inconvenience to the road in case of fire, would demand that the construction should be fire-proof or semi-fire proof, and to this end a design and treatment involving the use of terra cotta, tiles, etc., for the interior is to be preferred.

Synopsis of Special Design.

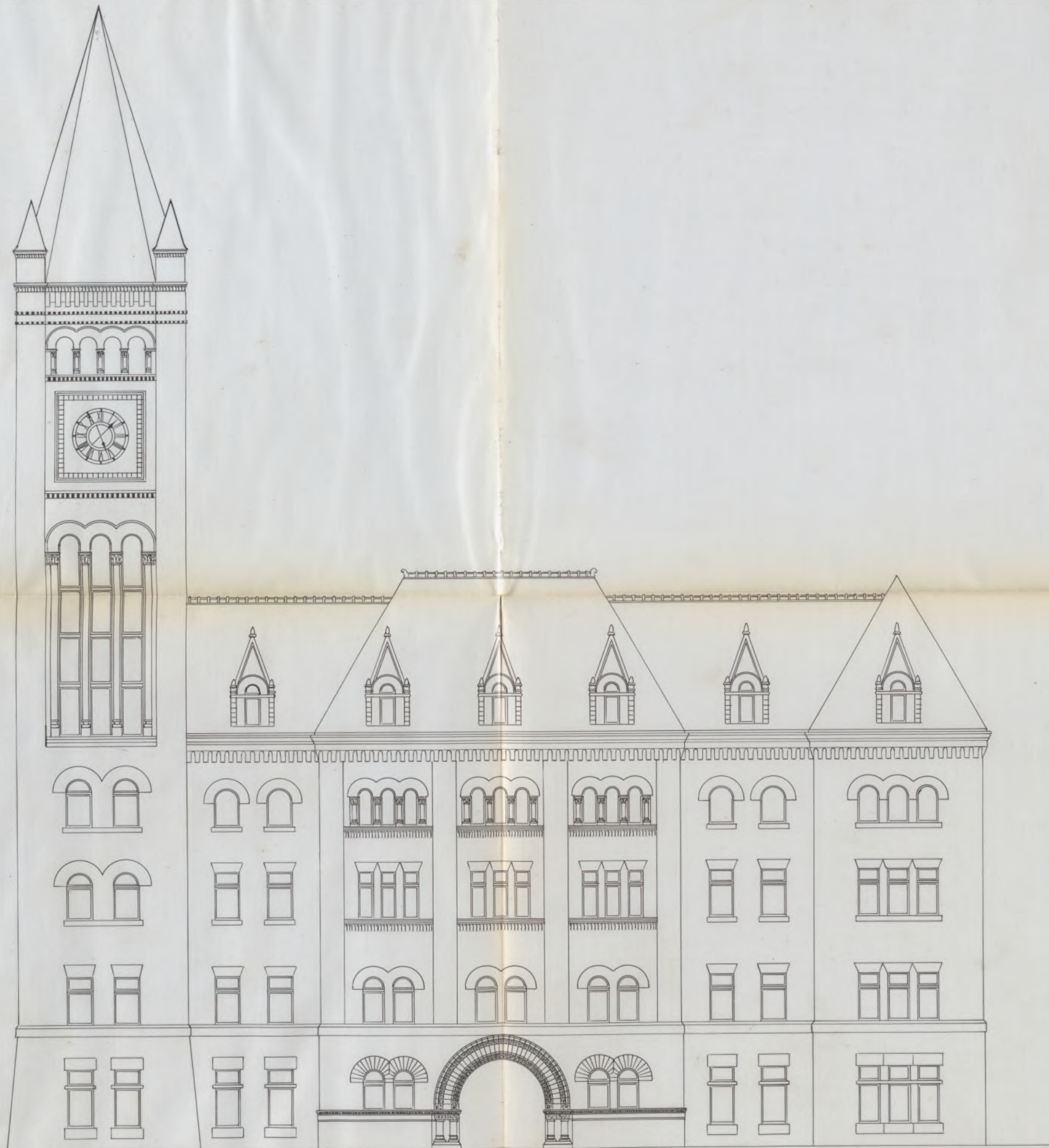
The accompanying plans and elevation were prepared for a depot suitable for a city somewhat smaller than Chicago. The data, with respect to the character and number of the various rooms, was obtained from a study of the Illinois Central Depot at Chicago.

The building, of the design here submitted, is assumed to be placed at the intersection of two principal streets, the tower facing these two streets, while the third side adjoins a narrow alley or court, thus giving a frontage on three sides while the fourth side is occupied by the tracks all of which end at the depot.

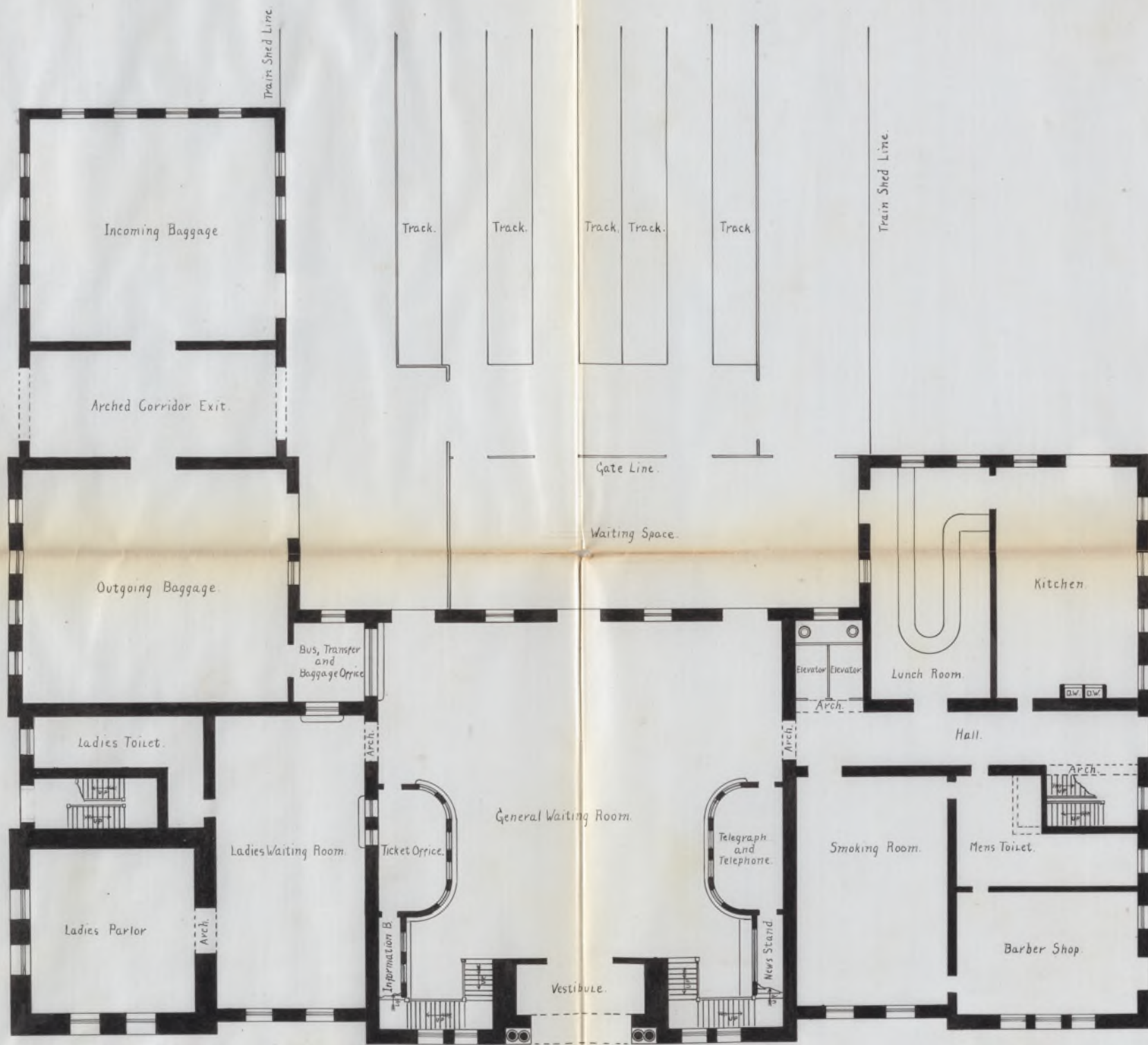
The Romanesque style of architecture was chosen as being the one that would give the desired effect of boldness and strength suitable for the treatment of a building of this character.

The first story is to be stone work, while all above is brick and terra cotta of colors to match the stonework below.

The roof is to be either slate or tile.

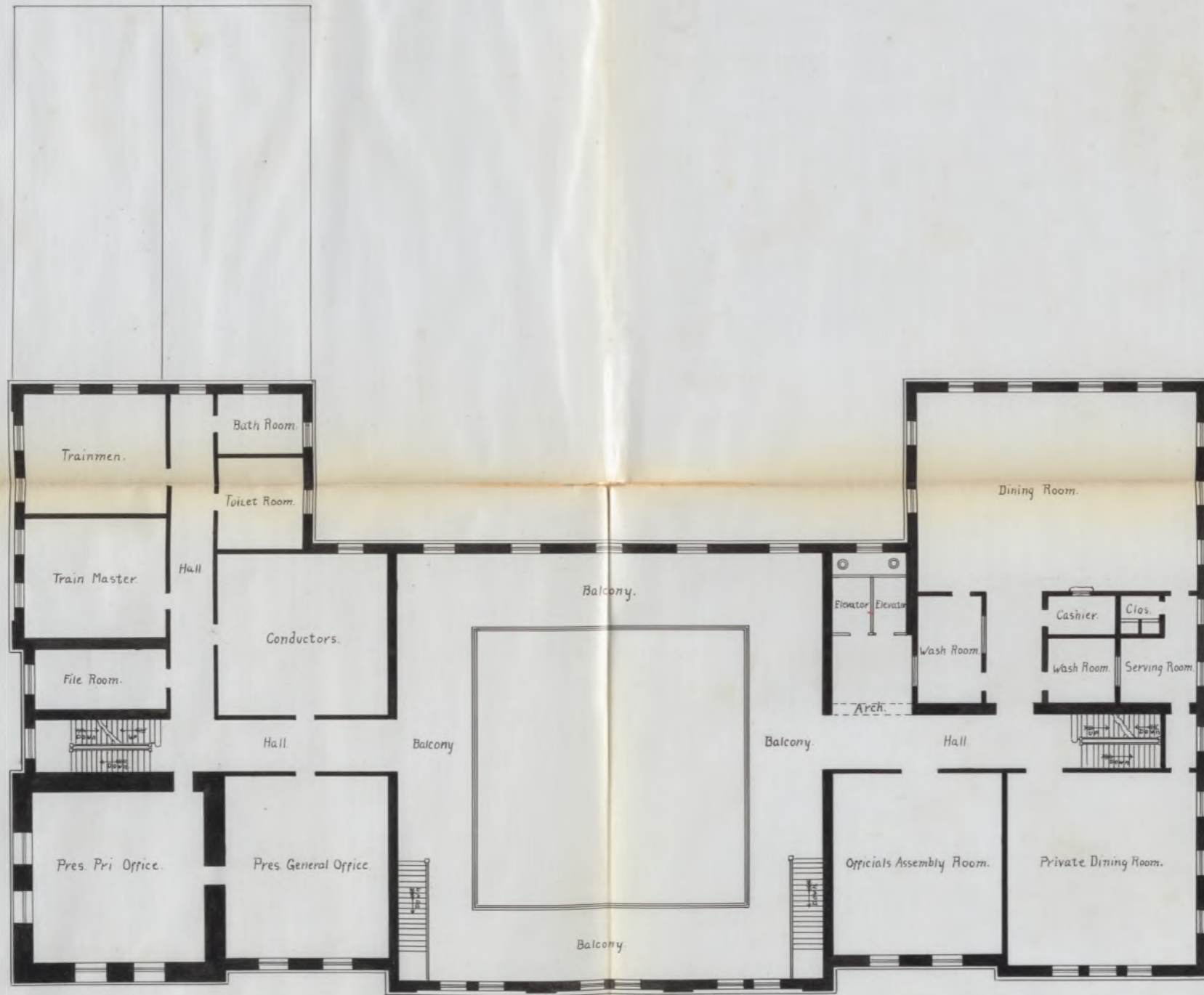


FRONT ELEVATION.
Scale $\frac{1}{16}$ in. to 1 ft.

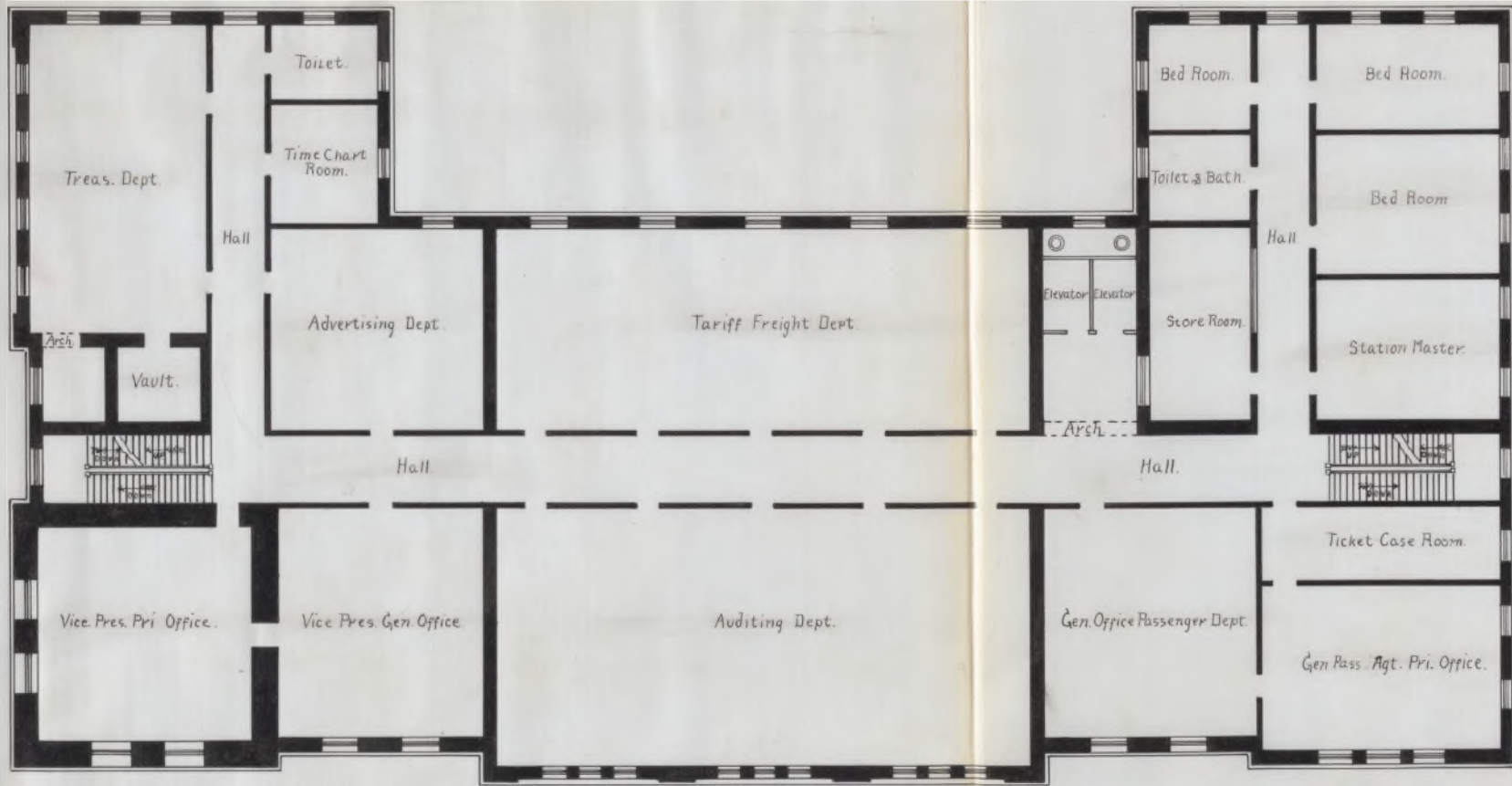


FIRST FLOOR PLAN.

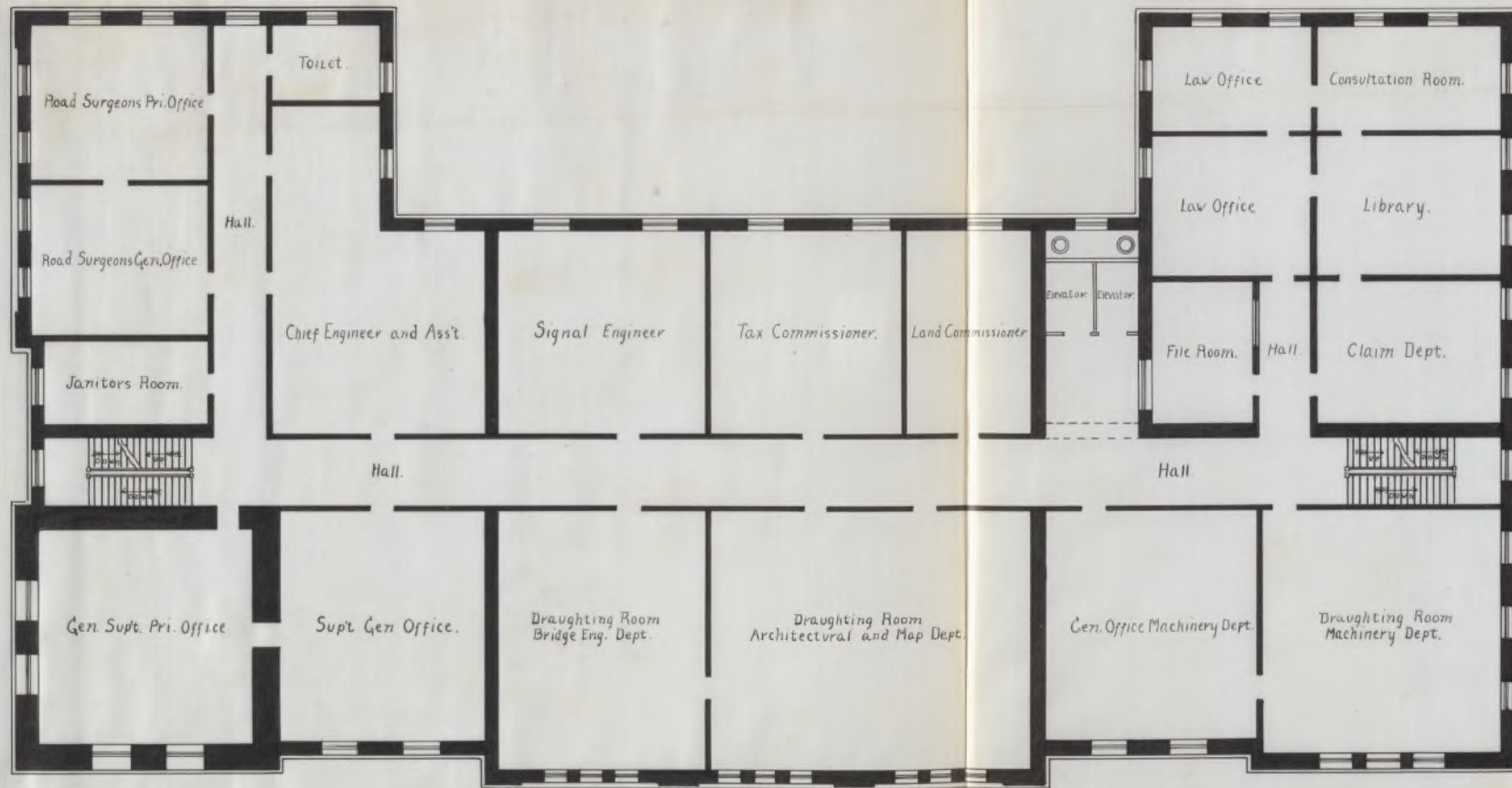
Scale $\frac{3}{16}$ in. to 1 ft.



SECOND FLOOR PLAN.
Scale $\frac{1}{4}$ in to 1 ft.



THIRD FLOOR PLAN.
Scale 1/16 in. to 1 ft.



FOURTH FLOOR PLAN.

Scale $\frac{1}{8}$ in. to 1 ft.