Red Line/HealthLine Extension Major Transportation Improvement Analysis
Urban Fabric Analysis
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1.0 Introduction

The purpose of this report is to evaluate how the transit extension alternatives brought forward for Tier 2 screening would address, and hopefully enhance, the urban fabric of the East Cleveland, Collinwood, and Euclid communities. "Urban fabric" is defined as both the existing and future patterns of streets, neighborhoods, and land uses. The analysis will take into account not only the proximity of proposed new transit stations to their surroundings and the mobility benefits that proximity implies, but the physical interface as well—how the stations and their amenities would be built into their environs and how this public investment could enhance community connectivity and revitalization.

This report is written with the Federal Transit Administration’s “New Starts/Small Starts” program in mind. The urban fabric aspects of the alternative transit investments address two of the six New Starts/Small Starts Project Justification Criteria:

- the Land Use criterion, which measures the degree to which existing patterns of population and employment density within a half-mile of proposed stations are supportive of high-capacity, fixed-guideway transit;
- the Economic Development criterion, which measures the potential for future transit-oriented development (TOD) through plans and policies aligned with TOD and the availability of developable land and buildings.

While the detailed assessment of these criteria will occur later, during the Project Development phase of the federal process, this urban fabric analysis can help guide the selection of a Locally Preferred Alternative that is strongly aligned with them.

The alternatives under consideration represent two approaches which would be expected, on their face, to intersect the urban fabric quite differently. Alternative B would install a Red Line extension or a Diesel Mobile Unit (DMU) commuter rail service along the Norfolk Southern rail alignment. Either technology relies on a smaller number of stations, spaced farther apart, with relatively large catchment areas requiring many passengers to access the stations by automobile, feeder bus, or local shuttle.

Alternative E or G would extend transit eastward from Windermere using either of two street-running technologies: a Bus Rapid Transit (BRT) extension of the HealthLine, or a light rail which leaves the street and joins the Red Line at Windermere. The latter technology is referred to throughout this study as “Rapid+”. On the street, the BRT and Rapid+ options are essentially identical: more frequent stations, built into the street, with smaller catchment areas and a higher share of passengers coming to and from the stations on foot.

In addition to these basic differences in technology and access, the alternatives under consideration—although running in essentially parallel corridors—pass through very dissimilar slices of the study area. For most of its length, Alternative B runs along the once mighty industrial corridor of Collinwood and Euclid, where much of the land and buildings have fallen vacant and those that are still active do not present an urban street condition. On the other hand, the availability of land for redevelopment, as modern light industry and as mixed-use, transit-oriented development, is substantial.

Alternatives E and G, by contrast, run on the traditional arterial streets of the three communities, largely along historic streetcar routes—Euclid Avenue, St. Clair Avenue, Waterloo Road, East 185th Street, Lakeshore Boulevard. Portions of these alignments interface significantly with the industrial corridor, but for the most part Alternatives E and G pass through mixed-use areas with street grids, established residential and commercial uses, and abundant opportunities for reinvestment through infill, intensification, and enhancement of the public realm.
This report is organized in two main sections:

- Alternative B is described in a series of three segments, progressing from the existing Red Line terminus at Windermere to the proposed extension terminus at Babbitt Road in Euclid.
- Alternatives E and G are described in a series of six segments, progressing from Windermere to east of Downtown Euclid.

Each segment begins with an overview of station spacing and location in the context of the corridor’s general characteristics. The discussion then focuses on one key station, elaborating on its design concept, its role in the streetscape, the connectivity network and any associated challenges, and the relevance of the station and its setting to existing land uses and future transit-oriented development.
2.0 Alternative B

2.1 Overview

Figure 1 shows the alignment of Alternative B, which would install either a Red Line heavy rail extension or a DMU commuter rail service along the Norfolk Southern railroad alignment. If the heavy rail technology were chosen, all stations would be grade-separated from their associated cross-streets. If the DMU technology were selected, the alignment profile would remain substantially as it is today, with some stations grade-separated (Shaw Avenue, Noble Road, East 222nd Street, Babbitt Road) and the rest at grade. In the segment-by-segment discussions that follow, Noble Road has been selected as the prototype for the grade-separated stations and London Road is the prototype at-grade DMU station.

The urban fabric characteristics of Alternative B are presented in three segments:

- the Euclid Avenue Corridor, where the Windermere, Shaw, and Noble Road stations are close to this key arterial and its numerous institutional uses. This discussion focuses on Noble Road station, which has the potential to support Euclid Avenue revitalization as well as the transformative redevelopment of a largely vacant industrial land area;
- the industrial corridor from Noble Road to Dille Road, where the alignment is dominated by active industrial uses and vacant industrial lands and buildings. This discussion focuses on London Road station;
- the terminal segment, focusing on Babbitt Road station, where a second land area of transformative scale is found.
In the discussions of Noble, London, and Babbitt Road stations, two planning radii are referenced: the quarter-mile "walkshed" and the half-mile "zone of influence". While these distances are arbitrary rules of thumb, they represent, respectively, the typical walking distance used in TOD planning and the larger area used by FTA in evaluating transit-supportive land use.

2.2 Euclid Avenue Corridor: Noble Road Station

2.2.1 Station Spacing and Location
The first two proposed stations on Alternative B are located at Shaw Avenue and Noble Road. As shown in Figure 2, the Shaw Avenue station site is approximately 3200 feet (.6 miles) from the current terminus, Louis Stokes Station at Windermere, and Noble Road is 2900 feet (.55 miles) beyond Shaw. These distances are considerably closer than the one-mile spacing typical of rail lines operating in dedicated right-of-way, to ensure that the entire Euclid Avenue corridor in East Cleveland, as well as the residential neighborhoods on both the East Cleveland and Collinwood sides of the railroad, are within walking distance of a station. Euclid Avenue and the Norfolk Southern alignment are less than a quarter-mile apart in this segment, so that, for example, the front door of East Cleveland’s Shaw High School is a 1000-foot line-of-sight walk from the proposed Shaw Avenue station.

Figure 2: Alternative B Rail Stations near Euclid Avenue

The proposed Noble Road station occupies a strategic place in the study area and the metropolitan region, impacting three areas of critical concern:

- the economically distressed Euclid Avenue corridor in East Cleveland, marked by vacant land and empty or distressed buildings. The block formed by the railroad, Noble Road, and Ivanhoe Road includes a vacant General Electric plant and its empty frontage;
• the 92-acre General Electric Lighting campus at Nela Park, a half-mile from the station; with a workforce of roughly 1,200, GE Lighting is one of the region’s largest and most strategic industrial employers;

• the roughly 100-acre “industrial triangle” north of the tracks in Collinwood, bounded by Noble Road and East 152nd Street on the west and Ivanhoe Road on the east and converging at Five Points. Virtually this entire land mass, including both sides of Noble Road and East 152nd Street, consists of industrial properties that have fallen into vacancy or disuse. In Figure 6 (page 5), the areas shaded green represent vacant land, and those shaded purple represent vacant or severely underutilized buildings.
The City of Cleveland, in its *Connecting Cleveland 2020 Citywide Plan*, changes the land use designation of the triangle from its current category of heavy industrial to a combination of three future categories:

- *light industrial* in the wide base of the triangle closest to the railroad; In response to a major transit investment, these lands could be zoned to accommodate mixed-use development as well;
- *one- and two-family residential* in the area on the west side East 152\(^{nd}\) Street;
- *institutional/recreational* in the portion of the triangle closer to Five Points. This is the site of the planned Collinwood Athletic Complex discussed in detail in the Five Points section of this report, which follows.\(^1\)

\(^1\) See the *Connecting Cleveland 2020 Citywide Plan* website, specifically the *District 6 Opportunities Map*.

\(^2\) Shaded areas represent approximate extent of vacant or significantly underutilized land, rather than specific parcels.

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Figure 6: Noble Road Rail Station Area \(^2\)
As shown in Figure 6, the Noble Road station would be sited on the north side of the rail embankment, just east of its existing grade-separated crossing of Noble Road. This location, at the base of the industrial “triangle”, places Euclid Avenue as well as most of the industrial triangle within the station’s quarter-mile walkshed. The station’s half-mile zone of influence extends south past Euclid Avenue to the GE Lighting campus, and north to Five Points.

2.2.2 Station Concept
Noble Road has been selected as the illustrative prototype for grade-separated stations on Alternative B. Whether as a Red Line station or a DMU commuter rail station, Noble would be a center platform station built on an elevated extension of the northerly face of the existing rail embankment. A pedestrian plaza would connect the station entrance to Noble Road. Park-N-Ride could be provided directly across Noble Road from the entry plaza on vacant land abutting the railroad. The conceptual design is illustrated in Figure 7.

Figure 7: Conceptual Plan of Noble Road Grade-Separated Red Line Station

2.2.3 Connectivity, Streetscape, and Redevelopment
Circulation to the south, connecting Noble Road Station to Euclid Avenue, would be relatively easy, requiring a safe and attractive pedestrian route on Noble Road as it crosses beneath the alignment. As shown in Figure 8, this connection would also serve the residential neighborhood of two dozen homes lining Noble Road between the railroad and Euclid Avenue.

Circulation to Ivanhoe Road, some 900 feet east of the station, would be provided by an attractive, well-lighted pedestrian walkway parallel to the alignment. This key pedestrian route would be integral to any redevelopment plan for the area north of the station.
The principal challenge to connectivity lies north of the station in the industrial triangle. In their current condition, these lands, which occupy the entire quarter-mile walkshed north of the railroad, would isolate the station from the Collinwood community. However, if these lands were redeveloped, particularly with mixed uses, an essential part of that process would be to design a new pedestrian and vehicular street grid. An illustrative plan of this transit village concept is shown in Figure 20 (page 21).

2.3 Industrial Corridor: London Road Station

2.3.1 Station Spacing and Location
A sequence of three stations would serve the heart of the industrial corridor through Collinwood and Euclid. These stations would confront the challenges of inserting a transit service into an existing industrial rail corridor: limited and interrupted pedestrian connectivity; large industrial properties that separate residential and mixed-use areas from the stations; industrial buildings which even if fully occupied constitute a low-density land use relative to the station walksheds; and in the case of this corridor, many industrial properties that are vacant or underutilized. In Figure 9, the shaded areas represent the approximate extent of industrial land that is now vacant; many other properties, with industrial buildings still in place, have ceased to support manufacturing or other high-employment industry. Iconic examples are the former Euclid Fisher GM plant between the East 193rd Street and Dille Road station sites, and the former Gould plant at 17000 St. Clair, now the Cleveland Industrial Innovation Center.
London Road Station is approximately 4500 feet (.85 miles) from Noble Road station to the west and East 193rd Street Station to the east. The easternmost station in this segment is located just east of Dille Road, approximately 3300 feet (.63 miles) from East 193rd Street. These station areas are framed by the east side’s historic arterials, St. Clair and Euclid Avenues. They contain residential areas within walking distance of each station, consisting mostly of traditional one- and two-family streets but also the 1574-unit Indian Hills “55+” community at East 193rd Street. Other residential streets in this corridor might require a neighborhood feeder or collector to reach the closest station because of the distance, the industrial setting, or both. Many industrial work places are also beyond reasonable walking distance for daily commuting.

This need for feeders or collectors is an integral consideration in evaluating Alternative B, and a potential additional cost as well. A rail service on the Norfolk Southern alignment—compared to BRT or Rapid+ service in the street—would address wider catchment areas requiring motorized as well as pedestrian means of access.

Figure 10 zooms in on London Road Station, which would be located at-grade just east of where London Road crosses the tracks. Both the quarter-mile walkshed and the half-mile zone of influence contain active industrial and commercial uses, vacant industrial land on the northerly side of the rail.
alignment, and residential neighborhoods. St. Clair and Euclid Avenues are about .75 miles apart and lie just outside the nominal walkshed but well within the zone of influence.

Figure 10: London Road Station Area

Among the landmark industrial sites near the proposed London Road Station is the one-time Parker Hannifin industrial systems plant at London and Euclid, which in 1997 became the administrative headquarters of the Cleveland Clinic Health System. This major employment destination is virtually adjacent to the station site, although there is currently not a continuous, well-lighted sidewalk connection.

2.3.2 Station Concept
If Alternative B were implemented as a Red Line extension, the line would be grade-separated and the London Road station would resemble the prototype shown previously for Noble Road. If the DMU option were chosen, the London Road station would be built at-grade, with its center platform set slightly above grade and accessed by pedestrian ramps at either end. The conceptual plan for the at-grade DMU station is shown in Figure 11.

2.3.3 Connectivity and Streetscape
As noted previously, much of the residential and employment base in the London Road station area (and the others in this segment) would access the station through feeder or collector services. That
said, the pedestrian environment in the immediate vicinity of the station is critical as well. If London Road and the stations to its east were at-grade DMU stations, the first priority would be getting passengers and other pedestrians safely into, out of, and past the platform and grade crossing area. This is shown in Figure 11.

Figure 11: Conceptual Plan of London Road At-Grade DMU Station

The second challenge is to make the streetscape on London Road itself attractive, safe, and welcoming enough to handle those passengers whose homes or jobs are within walking distance. Figure 12 shows the existing condition looking northward along London Road toward the rail crossing and station. Beyond the issues created by the vacant buildings, this walking route to Euclid Avenue and to the Cleveland Clinic headquarters is inadequate. The same is true immediately north of the station site, heading toward the residential segment of London Road. Appropriate streetscape improvements, including a sidewalk of adequate width as well as proper signage and lighting, would be an essential part of the station design.

Figure 12: London Road Existing Street Condition

Looking northward from Euclid Avenue toward station site
2.4 Terminal segment: Babbitt Road Station

2.4.1 Station Spacing and Location
The two outermost proposed stations are in the City of Euclid at East 222nd Street and Babbitt Road. As shown in Figure 13, the East 222nd station site is nearly a mile from Dille Road and over a mile from Babbitt Road—distances reflecting the absence of residential development and the dominance of sprawling industrial facilities in this segment. The CSX and Norfolk Southern railroad alignments begin to converge markedly east of Dille Road, and St. Clair Avenue, which functions essentially as a service road for its large abutters in this stretch, ends at Babbitt Road.

Figure 13: Alternative B Rail Stations at East 222nd Street and Babbitt Road

Both stations would adjoin the Lincoln Electric complex, one of the region’s largest employment centers. The Babbitt Road station site, which would incorporate RTA’s existing Euclid Park-N-Ride, is surrounded by vacant land and two large abandoned commercial properties, as described below. Significantly, these station sites are quite distant from Downtown Euclid (2.1 and 1.6 miles).

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3 The line could potentially be extended further, into Lake County, if the DMU technology were chosen; however the last station specifically proposed is Babbitt Road.
respectively) and separated by the visual barriers of the CSX and the freeway. Alternative B could provide Downtown Euclid with enhanced regional mobility via a frequent local feeder route along East 222nd Street, but it would have little direct impact on transit-oriented land use and development patterns in the downtown.

2.4.2 Station Concept
The Norfolk Southern alignment is already grade-separated at both East 222nd Street and Babbitt Road. If Alternative B were implemented as a Red Line extension, these stations would resemble the prototype shown previously for Noble Road (Figure 7, page 7). If Alternative B were implemented as a DMU service, a similar concept would be developed.

2.4.3 Connectivity and Redevelopment
Babbitt Road station would offer one of the largest expanses of redevelopable land in the study area, where—market conditions permitting—a large mixed-use transit village could be developed from scratch. As shown in Figure 14, there are three vacant sites wholly or partly within a quarter-mile of the station amounting to some 95 acres:

*Figure 14: Babbitt Road Station Area*
• an area of 9+ acres, including RTA’s Euclid Park-N-Ride and an adjacent vacant lot (labeled “A”);
• a 20+-acre site containing a vacant commercial building and its parking lot in the northwest quadrant of the Babbitt-St. Clair intersection (“B”);
• the 65+-acre abandoned Euclid Square Mall site east of Babbitt (“C”).

Except for Babbitt Road and the terminus of St. Clair Avenue, this area has no existing street grid. To create an environment for transit-oriented development at this transformative scale, Alternative B would have to be accompanied by two other investments: creation of streets, sidewalks, utilities, and other “district infrastructure” requirements of mixed-use TOD; and a shuttle connecting the easterly two-thirds of the Euclid Square Mall site to the rail station.

In addition to these potential mixed-use sites, the station area includes the 80+-acre Bluestone Business Park (labeled “D”), a City of Euclid industrial and commercial development. Bluestone Business Park is framed by the two railroads, East 260th Street, and the SR-2 Interchange, and it begins a half-mile from the station. A frequent shuttle to the station would be an essential value-added amenity.
3.0 Alternatives E and G

3.1 Overview

Alternatives E and G represent the street-running transit technologies, Bus Rapid Transit (BRT) and Rapid+. Either of these alternatives could be implemented using either technology; the difference between the two alternatives is in their alignments. As shown in Figure 15, the alternatives have identical routings between Windermere and Five Points, and between East 185th & Lakeshore and the proposed terminus at 260th Street east of Downtown Euclid.

Figure 15: Alignments for Alternatives E and G

The alternatives diverge between Five Points and Lakeshore Boulevard. Each alignment follows a historic street car route and would interface with the urban fabric of the study area in significant and beneficial ways:

- **Alternative E** continues northward from Five Points along East 152nd Street, turns eastward onto Waterloo Road and then northward onto East 156th Street, and finally turns eastward onto Lakeshore Boulevard.
- **Alternative G** turns eastward at Five Points onto St. Clair Avenue, follows St. Clair to its intersection with East 185th Street, and takes East 185th northward to its terminus at Lakeshore Boulevard, where it turns eastward.
In addition to this major divergence between Alternatives E and G, the two alternatives share a choice of two local sub-alignments in the segment framing the industrial triangle between Euclid Avenue and Five Points:

- Alternative E2 or G2 would use Noble Road and East 152\textsuperscript{nd} Street;
- Alternative E3 or G3 would use Ivanhoe Road.

The BRT/Rapid+ alternatives would impact the study area’s urban fabric in four distinct ways:

- by serving extensive areas of existing residential development, much of it within easy walking distance of a station;
- by supporting those portions of the alignment targeted for light industry as a future land use, particularly along the St. Clair corridor served by Alternative G;
- by bringing streetscape improvements at ground level extending well beyond the immediate station sites;
- and, as the distinctive feature of a BRT or Rapid+ investment, the potential to reinforce mixed-use transit village development in key locations like Euclid Avenue in East Cleveland, the “industrial triangle”, Five Points, the Waterloo Arts District, Nottingham Village, East 185\textsuperscript{th} Street, and Downtown Euclid.

Like the prior discussion of Alternative B, the urban fabric characteristics of Alternatives E and G are presented in segments, each focusing on a key station to illustrate the segment’s urban fabric challenges and opportunities.

### 3.2 Euclid Avenue Corridor: Euclid & Noble Station

The distressed conditions along Euclid Avenue in East Cleveland were described previously in reference to the closely parallel segment of Alternative B. Those same conditions would be addressed directly if Alternative E or G were chosen, since the BRT or Rapid+ service and its associated streetscape improvements would occur on Euclid Avenue itself.

#### 3.2.1 Station Spacing and Location

While it is common for street-running BRT or Rapid+ stations to be spaced up to a half-mile apart, the proposed stations on Euclid Avenue are closer, reflecting the importance of continuous, highly visible public realm improvements and short, safe, convenient walking distances to and from transit. The station distances shown in Figure 16, ranging from 1100 to 2000 feet, mean that every point on Euclid Avenue is less than a quarter-mile walk from a proposed station, and most points are much closer than that. Because Euclid Avenue is straight and flat, virtually every point enjoys eye contact with a proposed station. The entire Euclid Avenue corridor within its parallel “natural” boundaries—the Norfolk Southern railroad on the northwest and the East Cleveland parkland on the southeast—lies within a quarter-mile of the transit alignment.
3.2.2 Station Concept and Streetscape

Euclid Avenue is sufficiently wide to accommodate either BRT or Rapid+ in a fully dedicated median guideway, with both directions running in exclusive center lanes, as in the existing HealthLine between downtown Cleveland and University Circle. This is illustrated in Figure 17, which shows a “split-side platform” BRT station, protected from vehicular traffic, in the median of Euclid Avenue at its intersection with Noble Road. The project would provide dramatic improvements along Euclid Avenue, with a higher concentration of amenities in the station areas. These improvements represent a major public realm investment, rebuilding the roadways and sidewalks and adding high-quality lighting, street fixtures, and wayfinding. Because all passengers would have to cross the street to reach the median platforms, the streetscape design would include the requisite curb ramps and crosswalks. These side-platform median stations are of the same design as those now operating on Euclid Avenue between downtown Cleveland and University Circle.
Figure 17: Illustrative View, BRT Station and Streetscape at Euclid and Noble

Looking west from intersection of Ivanhoe and Euclid

3.3 The Industrial Triangle

The earlier discussion of the Noble Road train station in Alternative B described the triangular area formed by the Norfolk Southern, Noble Road, East 152nd Street, and Ivanhoe Road. This area of over 100 acres is one of the most disinvested parts of the study area, and its needs are transformative in scale. Addressing the triangle is a priority for Alternatives E and G, no less than for Alternative B.

While no single BRT or Rapid+ station would have the potential ridership impact of a Red Line station at Noble Road, the potential impact of BRT or Rapid+ woven into the streetscape on Euclid Avenue, at Five Points, and along the triangle in between is significant. These stations would provide a one-seat premium transit connection between the industrial triangle and the region’s main economic drivers: University Circle, Downtown Cleveland, and (if the Rapid+ technology option were chosen) the airport. Moreover, the BRT or Rapid+ alignment could help frame a grid of streets and sidewalks that would make the triangle more developable.

3.3.1 A Choice of Sub-Alignments

The two alternative sub-alignments along the industrial triangle are shown in Figure 18: the Noble Road/East 152nd Street alignment (Alternative E2 or G2) and the Ivanhoe Road alignment (Alternative E3 or G3). While either has the potential to improve the public realm and the context for redevelopment, the obvious advantage of the Ivanhoe routing is that it stays on Euclid Avenue, where high-impact public improvements are so desirable, for an additional block. Moreover, for engineering reasons, if the alignment were to turn onto Noble Road, the station at that intersection could not be the full median type which is the standard for Euclid Avenue.
On the other hand, because the expanse of vacant and underutilized industrial land straddles both sides of Noble Road and East 152nd Street, alignment E2/G2, with a station at or near that intersection, would put more of the triangle’s developable acreage within close walking distance. This differential is especially evident when the City of Cleveland’s plan for the Collinwood Athletic Complex is taken into account (the area shaded green in Figure 18). The land redevelopable for other purposes—residential, mixed-use, or light industrial—is more centered on the E2/G2 alignment.

The study’s economic development team has identified a hybrid sub-alignment which combines the benefits of E2/G2 and E3/G3. Shown in Figure 19, it turns onto Ivanhoe Road, cuts across the industrial triangle to East 152nd Street, and proceeds to Five Points.

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4 See the related discussion of the park plan in the Five Points section, which follows.
Figure 19: Relationship of Sub-Alignment E2/G2, Potential Rail Station, and Land Use

While the total guideway distance from Ivanhoe & Euclid to Five Points is approximately 1000 feet longer with this hybrid alignment than with a straight-line route on Ivanhoe (4600 feet versus 3600), the hybrid alignment allows the following:

- a center median station at Noble & Euclid and a curbside station at Ivanhoe & Euclid, with the full streetscape enhancement in between (including along the frontage of the vacant GE plant);
- a station in the core of the non-recreational redevelopment area of the triangle, all within a quarter-mile radius;
- convenient transit access to both ends of the proposed Collinwood Athletic Complex, with streetscape improvements on East 152nd to help knit the future park components together with the new high school football stadium.

This alignment also preserves the ability for the BRT or Rapid+ station to interface with a Noble Road train station, should one ever be built. This could occur in either of two conceivable scenarios:

- Instead of a full Red Line extension, a short extension could be built terminating at Noble Road, where it would interface with the BRT or Rapid+ station. Together, these two facilities would create a powerful mobility hub and redevelopment platform for the industrial triangle. This Red
Line “mini-extension” could be undertaken as a separate future project, or it could be planned as part of a hybrid outcome to this Major Transportation Improvement Analysis.

- At some future time, DMU service could be instituted along the Norfolk Southern line. In either case, Noble Road would be the only place other than Windermere where the two systems would intersect.

Figure 20: Illustrative TOD Redevelopment Plan, Industrial Triangle
3.3.2 Connectivity, Streetscape, and Redevelopment

Figure 20 presents an illustrative concept for the redevelopment of the industrial triangle. It assumes, for the sake of illustration, that a BRT or Rapid+ extension is built on the hybrid alignment described above, with a station in the core of the industrial triangle. A future train station, serving either the Red Line mini-extension or a DMU service, is shown as well, but the redevelopment concept does not require it. The key elements of the plan are the super-imposition of a TOD-friendly street and sidewalk grid within the triangle, where none exists today; a pedestrian environment that seamlessly integrates the station(s), the new development parcels in the triangle, the enhanced streetscapes of Noble Road, Ivanhoe Road, and East 152nd Street, and the proposed Collinwood Athletic Complex in the northern part of the triangle. While the future land use of the non-recreational portion of the triangle is currently designated light industrial, the City of Cleveland could shift at least some of this designation to mixed-use in order to take advantage of the TOD opportunity. This may be particularly appealing if the BRT or Rapid+ investment (or the rail investment if Alternative B were built instead) were seen as likely to strengthen Five Points and Euclid Avenue as well.

3.4 Five Points: a Historic Transit Village

Five Points is the historic mixed-use “town center” of Cleveland’s Collinwood district. Its name derives from the intersection of St. Clair Avenue, East 152nd Street, and Ivanhoe Road, which together create an urban hub with five radial “spokes” and five wedge-shaped corners. As shown in Figure 21, Five Points in its heyday had strong commercial corners, with pedestrian bustle and streetcar service on St. Clair Avenue and 152nd Street. It was a classic transit village long before that term existed.

Figure 21: Five Points in 1942

[Image: Looking west at corner of St. Clair Avenue and East 152nd Street]

Today, Five Points’ traditional anchor remains—Collinwood High School (from which the 1942 photograph was taken). The northeasterly corner, across St. Clair Avenue from the high school, contains Collinwood’s modern fire and police stations. The public library and post office are located a short walk north of the hub on East 152nd Street. But after decades of decline and disinvestment, the northwesterly, southwesterly, and southeasterly corners of Five Points have long since lost their traditional town center building forms and today contain stand-alone, one-story retail uses with extensive surface parking, as shown in Figure 22.
Five Points suffers economically from the erosion of the industrial base that once surrounded it. To the south, as described in the preceding section, the industrial triangle is vacant or deeply underutilized. The same is true east of Five Points in the industrial corridor extending along St Clair between the railroads.

**Figure 22: Five Points Today**

![Corner of Saint Clair Avenue and East 152nd Street](image)

The *Connecting Cleveland 2020 Citywide Plan* promotes transit-oriented and town center development as citywide planning principles. Because revitalization of Five Points as Collinwood’s mixed-use town center is a prime opportunity, the street-running transit alternatives brought forward for Tier 2 screening have Five Points as a focus. A BRT or Rapid+ station and its accompanying streetscape improvements would be a placemaking investment, designed to help pull Five Points together, enhance its appeal as an interconnected, walkable town center, and support other revitalization efforts.

*Connecting Cleveland* promotes several key land use changes in the immediate walkshed of the Five Points station, all consistent with the re-emergence of a walkable, transit-oriented town center:

- commercial and mixed-use intensification on St. Clair Avenue west of the hub;
- neighborhood-scale offices along St. Clair Avenue east of the hub;
- the Collinwood Athletic Complex—a multi-sport recreational open space to be shared by the high school and the general public—on vacant industrial land south of the hub. The new high school football stadium on East 152\textsuperscript{nd} Street is the initial phase of this development. In the northern portion of the “triangle”, the current land use classification is heavy industrial, while the proposed future classification is recreational.

### 3.4.1 Station Spacing and Location

Five Points would be served by a single BRT or Rapid+ station. Figure 23 locates the station at the hub, with its quarter-mile walkshed extending out along the five spokes. The areas shaded in light blue are the “soft” commercial corners. In addition to the school, the station’s quarter-mile walkshed contains the commercial and civic uses described above, as well as one- and two-family residential streets to the west, north, and east. The walkshed south of the station includes the new high school football stadium and the northern portion of the vacant and underutilized industrial triangle extending all the way to the railroad.

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\textsuperscript{5} See the *Connecting Cleveland 2020 Citywide Plan* website, specifically the [District 6 Existing and Proposed Land Use Maps](#) and the [District 6 Opportunities Map](#).
Figure 23 also shows how the alternative street-running transit alignments converge on Five Points:

- The service heading northward into Five Points from Euclid Avenue could use either of the two alignments described in the previous section—E2/G2, via Noble Road and East 152nd Street, or E3/G3 via Ivanhoe Road, or the hybrid described in the preceding section, which would enter Five Points via East 152nd Street.

- Continuing through Five Points toward Lakeshore Boulevard, Alternative E would run northward up East 152nd Street to the Waterloo Arts District, while Alternative G would turn eastward on St. Clair Avenue to Nottingham Village. (These alternatives are described in detail in Section 3.6.)

### 3.4.2 Connectivity, Streetscape, and Transit

Figure 20 on page 21 illustrates the Five Points station in its transit village context. The station is located alongside the park at the point of the triangle. Integrative streetscape improvements radiate out along the five spokes of Ivanhoe, St. Clair, and East 152nd. The station provides easy access to the Collinwood Athletic Complex within the triangle and to the high school football stadium across East 152nd, and the streetscape treatment helps to visually connect those two features. The other land use changes which the City envisions occur over time, reinforced by the return of high-capacity, high-amenity transit and the one-seat connection to University Circle and Downtown. The “soft corners” on the west side of 152nd are being intensified with mixed-use development featuring street-level retail, and some of the buildings fronting St. Clair Avenue east of the station are being converted to offices for community businesses.
3.5 Alternative E: East 152nd Street, Waterloo Road, and East 156th Street

As described previously (see Figure 15 on page 15), Alternatives E and G diverge between from Five Points to Lakeshore Boulevard. The urban fabric characteristics of these two alignments, each following a historic streetcar route, are compared in these two sections. Alternative E is described first, followed by Alternative G.

3.5.1 Station Spacing and Location

Between Five Points and the Collinwood Yards, Alternative E has a single proposed station at East 152nd and School Avenue. It then crosses under the Yards and the I-90/SR-2 freeway, a non-developable segment more than half a mile in length. On emerging from beneath the freeway, the alignment turns onto Waterloo Road and East 156th Street, as shown in Figure 24.

Figure 24: Alternative E, Waterloo Road and 156th Street

The station at Waterloo Road & Shiloh Road would serve the Waterloo Arts District, an emerging neighborhood activity center that wraps around the corner of Waterloo and East 156th. It is marked by a sculpture in the intersection’s extended sidewalk plaza. Several lots in the immediate vicinity of the intersection are vacant, and the large triangular corner opposite the sculpture is occupied by a gas
The BRT or Rapid+ station and associated streetscape improvements could support infill development or more organized public open space on these sites.

Figure 25: Waterloo Arts District with Identifying Sculpture

Sculpture at intersection of Waterloo Road and East 156th Street

Figure 26: Waterloo Arts District, Vacant and Soft Land Use

The proposed station at East156th Street & Grovewood Avenue would serve the neighborhood between the Arts District and Lakeshore Boulevard. This is an area of one-, two-, and multi-family housing, with residential, local commercial, and institutional uses fronting on the East 156th Street alignment. The two station sites are approximately 2200 feet apart, so that every point on or near East

6 Shaded areas represent approximate extent of vacant or "soft" land use, rather than specific parcels.
156th Street is within a quarter-mile walk of one or the other. After the alignment joins Lakeshore Boulevard, the first station would be at Lakeshore and East 163rd Street, site of the Collinwood Recreation Center. This station is approximately 2600 feet of running distance from the East 156th & Grovewood stop.\footnote{From the Collinwood Recreation Center eastward to Downtown Euclid, station spacing generally remains in a range of 2200 to 2900 feet, typical for BRT or street-running LRT.}

### 3.5.2 Station Concept and Streetscape

Alternative E could be implemented as either a BRT or a Rapid+ service. Because Waterloo Road and East 156th Street are too narrow to allow for a dedicated median guideway, in this segment either technology would have to be designed in a curbside configuration with the stations incorporated into enhanced sidewalks. The configuration would resemble that shown in Figure 29 on page 29.

In a setting like Waterloo Road or East 156th Street, with an in-street transit service running on an established main thoroughfare in a walkable grid, physical connectivity is not a major challenge. The curbside BRT configuration allows the station platforms and the streetscape to join seamlessly, and as long as there are safe pedestrian crossings and adequate signage, passengers will know how to get to the station and have little trouble doing so. The key benefit of the streetscape improvements is that they can support efforts by property owners to invest in existing buildings and infill development.

### 3.6 Alternative G: St. Clair Avenue and 185th Street

#### 3.6.1 Station Spacing and Location

From Five Points, Alternative G would serve quite different urban corridors. First is the St. Clair corridor from Five Points to its intersection with Nottingham Road and East 185th Street. This two-mile segment runs between the Norfolk Southern and CSX railroads and includes an unusual progression of neighborhood residential and commercial blocks and underutilized industrial lands. The neighborhood fabric occurs mostly at the two ends of the corridor: between Five Points and London Road at the western end, and between Larchmont and Nottingham Roads—the area known as Nottingham Village—at the eastern end.

The central part of the St. Clair corridor includes large swaths of industrial land, both active and vacant, on the south side of the Avenue along the Norfolk Southern; the shaded areas in Figure 27 represent the same vacant industrial lands shown earlier in Figure 9 (page 9). On the northern side of the Avenue, which runs closer to the CSX as both move eastward, industrial properties backed up against the railroad also present a mix of active and vacant uses. This two-mile stretch from Five Points to Nottingham Road would be served by five stations, spaced on average a half-mile apart. Each station is intended to serve residential neighborhoods within walking distance, as well as to support nearby industrial employers.

At Nottingham Village, Alternative G turns north onto East 185th Street and passes beneath the CSX railroad and the freeway to a station at East 185th & Kildeer Road. This is a largely undevelopable stretch of some 4200 feet or .8 mile; however, the developed area between the freeway and Kildeer is within a 1000-foot walk of the station. As shown in Figure 28, the next two stops—at Landseer Road and at the major intersection of East 185th & Lakeshore Boulevard—are spaced closely enough that every point on East 185th is less than 1000 feet from a station. This spacing allows the transit and streetscape investment to reinforce one of the region’s strongest and most important neighborhood streets.
Figure 27: Alternative G Stations, St. Clair Avenue

Figure 28: Alternative G Stations, East 185th Street
3.6.2 Station Concept and Streetscape

East 185th Street is roughly 40 feet wide from curb to curb and would not support a dedicated median configuration. Like Waterloo Road and East 156th Street in Alternative E, it would support either BRT or Rapid+ in a curbside configuration, with the passenger platforms integrated into the sidewalk. For purposes of illustration, the station at East 185th & Landseer serves as the prototype BRT or Rapid+ light rail curbside station. The station in its streetscape context, looking southward, is shown in Figure 29. The station platforms blend seamlessly into an sidewalks with unified signage and amenities. The passenger shelters are “right-sized” to avoid unduly blocking the view of stores and restaurants, and curbside parking is undisturbed except at the actual station site, where passengers need to safely move between the sidewalk platform and the vehicle.

Figure 29: Illustrative View, Rapid+ Station and Streetscape at East 185th & Landseer

3.6.3 Two Revitalization Corridors

The corridors that would be served by Alternative G are development priorities for the Cities of Cleveland and Euclid. The St. Clair Avenue Revitalization Strategy, undertaken in 2004 for the Collinwood & Nottingham Villages Community Development Corporation, outlines the history of industrial job loss and plant closings along St. Clair and a long-term public-private strategy for reinvestment. The combination of premium one-seat transit service to University Circle and downtown, high-quality mobility along the St. Clair corridor itself, and new streetscape improvements would support these efforts. The Connecting Cleveland 2020 Citywide Plan identifies the industrial lands between St. Clair and Norfolk Southern as one of the City's principal opportunities for long-term growth in modern light industry.8

East 185th Street lies in both Cleveland and Euclid and, for much of its length, forms the municipal boundary between them. It is a neighborhood main street of regional significance, lined with retail businesses and flanked on both sides by residential side streets, as shown in Figure 30. Cuyahoga County recently secured a “TLCI” (Transportation for Livable Communities Initiative) grant to study how to best reinforce East 185th as a “complete street”, encouraging continued vitality in the existing commercial streetscape and infill development in those parcels that remain vacant. BRT or Rapid+

8 See the Connecting Cleveland 2020 Citywide Plan website, specifically the St Clair Avenue Revitalization Strategy and the District 6 Opportunities Map.
service on East 185th Street, with its attendant streetscape improvements, could be an integral part of the TLCI strategy.

Figure 30: Existing Streetscape on East 185th Street

Looking south from Landseer station site

Figure 31: Intersection of 185th Street and Lakeshore Boulevard

A particularly important opportunity exists at the intersection of East 185th and Lakeshore Boulevard where, on the lake side, a cluster of educational and medical institutions is located. These include a major Catholic high school as well as two local hospitals now affiliated with Cleveland Clinic and
University Hospital, respectively. The new transit service would link the medical facilities to University Circle and make all of these institutions more accessible to their students, patients, and visitors.

Additionally, this “meds and eds” cluster could create a demand for residential, office, and retail development along the northern segment of East 185th Street, where soft and vacant parcels, as well as extensive surface parking, appear north of the Landseer station site. While either Alternative E or Alternative G would include a station at East 185th & Lakeshore, Figure 31 suggests that the continuous linear alignment along East 185th would likely create a stronger visual and pedestrian connection (not to mention the one- or two-stop transit connection) between the educational and medical cluster and East 185th Street.

3.7 Lakeshore Boulevard and Downtown Euclid

The easternmost segment of the proposed BRT or Rapid+ extension would run along Lakeshore Boulevard from East 185th Street through Downtown Euclid and on to a terminus at East 260th Street near the Lake County line (or potentially into Lake County, terminating at Shoregate Shopping Center). This segment is identical for Alternatives E and G.

3.7.1 Station Spacing and Location

The stations at East 195th, 200th, and 211th Streets would serve the established residential community west of Downtown Euclid, consisting mostly of one- and two-family homes as well as some fairly dense multi-family properties. The station distances are typical for BRT, averaging about one half-mile, with the exception of the quarter-mile spacing between 195th and 200th, which seeks to optimize pedestrian access from the dense residential triangle centered on East 195th Street.

As shown in Figure 33, the downtown would be framed by two stations located a quarter-mile apart at two pivotal intersections:
- "the Point", where East 222nd Street and Babbitt Road intersect with Lakeshore Boulevard. This station would serve the residential area immediately west of downtown as well as the retail core. RTA could potentially negotiate shared park-and-ride use of the downtown’s large supply of surface parking (whose peak demand occurs on nights and weekends);
- **East 228th Street**, at the eastern end of the commercial core. This station would provide good pedestrian access to the City’s lakefront open space assets, including Sims Park and Henn Mansion, and could also benefit from shared park-and-ride use of the private surface lots along East 228th Street and Shore Center Drive.

A third station is located a half-mile east of downtown at East 242nd Street. This station would serve two large high-rise residential developments on the lake side of the Boulevard: Harbor Town, located directly at the station, and Harbor Crest, about 500 feet to the east. A third, Normandy Towers, is a little over a quarter-mile east of the station. Also located at this stop is the site of the former St. Robert’s church, acquired by the City of Euclid as a future development opportunity.

**Figure 33: BRT or Rapid+ Stations, Downtown Euclid / Lakeshore Boulevard**

**3.7.2 Station Concept**

From the Point eastward, Lakeshore Boulevard is wide enough to accommodate either BRT or Rapid+ in a dedicated median. However, because the downtown core is already a busy place, with a major intersection, multiple side streets, two proposed transit stations, and anticipated future development, these two stations will be sited at the curb. The transit line, which will be in the curbside configuration
between East 185th Street and the Point, will remain so through downtown, running in mixed traffic; the transition to the center median configuration will occur east of the 228th Street stop, where conditions will be less complex. The station concepts are shown in plan view in Figure 37 (page 35).

3.7.3 Connectivity, Streetscape, and Transit
Downtown Euclid is defined in large part by a robust stretch of retail business along Lakeshore Boulevard. West of the Point, in the Moss Point Block, the storefronts are at the sidewalk, with a traditional town center feel (Figure 34). East of the Point, however, the dominant features on the south side of Lakeshore Boulevard are three retail centers, two of which are “strip malls” with surface parking adjoining the sidewalk (Figure 35). Across Lakeshore are a gas station and a stand-alone chain drug store; the City of Euclid is in the process of acquiring these properties as part of an upgrade of its municipal facilities north of Lakeshore Boulevard. The City’s lakefront parkland is situated east of these properties, near the proposed East 228th Street station.

Figure 34: Moss Point Block, Downtown Euclid

Figure 35: Lakeshore Boulevard East of the Point

Looking westward; Shore Center on left, gas station on right

The City’s Downtown Transportation for Livable Communities Initiative (TLCI) Plan presents a comprehensive strategy for the evolution of Downtown Euclid to a more pedestrian-friendly, mixed-use town center. Elements of the strategy include changes in the street pattern, a unifying streetscape design, active street edges where they are lacking today, and a modest intensification of land use in areas now devoted to surface parking. The addition of BRT or Rapid+ can make downtown a classic transit village.

See the City of Euclid website, specifically DowntownTLCI_Plan.pdf.
Figure 36 is based on a key graphic in Euclid’s *Downtown TLCI Plan*, showing the roadway and land use changes the City envisions over time. The two proposed BRT/Rapid+ station locations have been added to the plan, along with a few minor modifications which would help integrate the stations into the fabric of Lakeshore Boulevard. The Point station is on the east side of the intersection, where it could support the activation of the Lakeshore frontage. The parking area to be created by the City behind the new buildings on the north side of Lakeshore could be shared for Park-N-Ride on weekdays. The station at East 228th straddles the intersection, with its eastbound platform in front of the Lakeshore Cinema and the westbound platform at the entrance to Simms Park. East 225th and 226th Streets, which are residential, have full left- and right turn movements at Lakeshore. Figure 37 zooms in on the two stations, showing how the curbside alignment and sidewalk platforms could be integrated into the specific roadway and streetscape plans presented in the *Downtown TLCI Plan*.10

**Figure 36: Conceptual Plan, Downtown Euclid Station Areas**

Finally, Figure 38 presents an illustrative TOD and station area plan for the stop at East 242nd Street, serving the City’s proposed future development at the former St. Roberts church on the south side of Lakeshore Boulevard, and the Harbor Town and Harbor Crest residential high rises on the north side. With the extension of high-quality transit to St. Robert’s front door, and one-seat travel to Downtown Euclid, the hospitals at East 185th Street, and University Circle, this 7.5-acre development site becomes a TOD site. The illustrative plan shows how a residential project could combine a mid-rise building fronting on Lakeshore, closest to the station, with neighborhood-scale retail space at the sidewalk, and low-rise flats and townhomes extending toward the rear of the site, fitting in with the attractive character of the existing neighborhood.

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10 Figure 36 is based on the plan shown on page 103 of the *Downtown TLCI*, entitled “Sustaining Downtown Euclid”. Figure 37 is based on the plans shown, ibid., on pages 84 and 88 (“Main Street—Lakeshore Boulevard”).
Figure 37: Downtown Euclid, BRT Curbside Stations in Streetscape Context

The Point: Lakeshore & Babbitt

Lakeshore & East 228th Street
Figure 38: Conceptual TOD and Station Plan at East 242nd Street
4.0 Conclusion

The preceding sections have examined how the transit extension alternatives brought forward for Tier 2 screening would interface with the urban fabric of the East Cleveland, Collinwood, and Euclid communities. First Alternative B, and then Alternatives E and G, were presented in sequences of corridor segments, starting at the existing Red Line and HealthLine terminus of Louis Stokes Station at Windermere and concluding on Lakeshore Boulevard. Key stations were chosen to illustrate the applicable set of urban fabric challenges and opportunities, which differ considerably across transit technologies and community settings.

The urban fabric analysis is only one of several evaluative comparisons that will, taken together, enable RTA to select a locally preferred alternative. Ridership, costs, and environmental impacts must be considered as well.

In fact, the urban fabric analysis does not, by itself, give the complete economic development picture. A companion report on market expectations outlines, in preliminary fashion, the extent to which future economic conditions in the study area and Northeast Ohio might be expected to support the kinds of development outcomes identified in these pages:

- the creation of transit villages through infill, intensification, and reinvestment in places like Euclid Avenue, Five Points, Waterloo, East 185th Street, and Downtown Euclid;
- the large-scale, more transformative redevelopment of the “industrial triangle” and the failed commercial experiment at Babbitt Road;
- the stabilization and modernization of industrial employment in the industrial corridor that runs through the study area and still has almost unlimited access to two railroads and an interstate highway.

That said, there are important differences in how the three alternatives intersect the urban fabric, both in its present condition (which determines whether existing land use patterns are transit-supportive and adequately connected to the stations) and in the opportunity for future TOD. Those differences can be summarized as follows:

- Alternative B interfaces meaningfully with existing residential neighborhoods and community institutions only in its first two station areas, Shaw Avenue and Noble Road. These stations also place Alternative B within close walking distance, and even within eye contact, of the Euclid Avenue corridor. However, much of the Noble Road station area, and all of the station areas east of Noble, are dominated by a mix of active, underutilized, and vacant industrial land, with relatively little pedestrian connectivity to surrounding neighborhoods. Alternative B is on the fringes of Five Points and a two-mile bus ride from Downtown Euclid. In terms of existing transit-supportive land uses, or proximity to main streets and neighborhood business districts in need of revitalization, Alternative B, except at Shaw and Noble, is relatively “off the grid”.
- Alternative B would directly serve the study area’s two district-scale opportunities for transit-oriented redevelopment: the industrial triangle at Noble Road station and the expanse of vacant land and shuttered malls at Babbitt Road. In the face of its weak population and employment densities, and modest projected ridership relative to cost, the transformative scale of these two opportunities (albeit over what might be a long period of time) is an argument for considering Alternative B.
- Alternative B would involve stations removed from the normal pedestrian environment. While they would generate streetscape improvements in their immediate environs, these would be, by nature, routes to and from the station rather than investments in the fabric of busy streets and
intersections. Again, the exceptions would be Shaw, Noble, and, in the sense of creating a new street grid from scratch, Babbitt.

- By contrast, the street-running technologies of Alternatives E and G are woven, from end to end, into the fabric of the three communities. The stations are all in the street, either at the curb with the platforms integrated into the sidewalk or in the center median in the iconic style of the HealthLine. People will walk to these stations, which are closer together and part of a highly visible streetscape upgrade along the corridor. Both alternatives were designed to serve Euclid Avenue, Five Points, Lakeshore Boulevard, and Downtown Euclid, traditional “main streets” served historically by streetcar lines. Where Alternatives E and G diverge, the choice is between similar opportunities. No single BRT or Rapid+ station would have the ridership impact of one Red Line station, but BRT and Rapid+ offer, in each segment, a series of stations in full contact with their surroundings and as the spine of an enhanced public realm.

- Alternatives E and G are similar but not identical, and their unique segments traverse areas where BRT or Rapid+ would reinforce the urban fabric. Alternative G would serve two very different corridors. On St. Clair Avenue, from Five Points to Nottingham Village, the transit line would serve residential, commercial, and industrial uses, including the study area’s largest concentration of industrial land designated for future light industrial use. On East 185th Street, Alternative G would be woven into one of the strongest neighborhood commercial corridors in the region, yet one that needs reinforcement and is a priority for both Cleveland and Euclid, whose mutual boundary it forms.

- Alternative E would reinforce the Waterloo Arts District, serve the residential neighborhood along East 156th Street, and cover more of Lakeshore Boulevard. As worthwhile as these urban fabric interventions would be in their own terms, the greater need and the greater upside appears to lie with Alternative G.

- Finally, the study team spent considerable time evaluating the two BRT/Rapid+ sub-alignments previously identified for the key segment along the industrial triangle between Euclid Avenue and Five Points: Alternative E2/G2, via Noble Road and East 152nd Street, and E3/G3 via Ivanhoe Road. There are strong pros and cons for each, including a greater impact on Euclid Avenue for E3/G3 and better alignment with the redevelopable lands of the triangle for E2/G2. As described in this report, a blended alignment has been identified which, from an urban fabric standpoint, would combine the best of both routes: an extended presence on Euclid Avenue, a more central station in the industrial triangle, and the alignment and its streetscape impact on East 152nd Street.