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Public transportation is the foundation of modern cities across the globe. Cities such as New York City expanded rapidly after the advent of the subway in particular, as the flat riding fee enabled residents to move out of tenements to the outer boroughs.[1] However, many transit systems were built decades ago, and cities everywhere are looking to modernize their systems. As transit authorities meet to discuss different possibilities, reforming the way riders pay their fare is a top priority. Currently many American mass transit systems utilize reusable cards you either tap or swipe at a turnstile. Conversely, many European mass transit systems, such as the London Underground, have moved to a system where riders can use their smart phone or a contactless credit/debit card to pay their fare directly.[2] Over the past decade, some American cities have attempted to implement contactless payment systems[3] with Chicago being the first major system to support both contactless credit/debit card and smart phone payment at the turnstile.[4] Following recent criticism of the New York City Subway system, the Metropolitan Transportation Authority (MTA) voted on October 20, 2017 to approve a $573 million dollar plan that will modernize the MTA in a similar way.

This innovation was recently challenged when Smart Systems Innovations, LLC (SSI) sued the Chicago Transit Authority (CTA) and their development partners, alleging infringement of four of SSI's patents.[5] The abstract of Patent Number 7,556,003 describes SSI's development as a "method for regulating entry in a transit system using information from a bankcard, such as a credit card or debit card . . ."[6] The CTA argued that the patents should be invalidated under 35 U.S.C. § 101 as non-patentable subject matter.[7] CTA claims that SSI's patents are abstract ideas[8] and therefore not patentable under *Association for Molecular Pathology v. Myriad Genetics, Inc.*, which provides that the "[l]aws of nature, natural phenomena, and abstract ideas are not patentable."

In 2015, the case was heard by United States District Court for the Northern District of Illinois, who found for the Defendants. The District Court used the *Alice* factors in reaching their conclusion. The United States Court of Appeals for the Federal Circuit affirmed.[9] In the principal case the courts relied on, *Alice Corporation Pty. Ltd. v. CLS Bank International*, the Supreme Court articulated a two part analysis for assessing whether the claims are based on an abstract idea.[10] In step one, "claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter."[11] In step two, the court must "examine the elements of the claim to determine whether it contains an inventive

concept sufficient to transform the claimed abstract idea into a patent-eligible application."[12] In the present controversy, the District Court and the Court of Appeals agreed that step one was satisfied since the patents merely represent a payment method – an inherently abstract notion.[13] Under step two, the Court of Appeals again concurred with the District Court since the mechanics of the payment method and the technology controlling it are generic and therefore an abstract idea.[14]

Judge Richard Linn wrote an extensive dissent where he argued that "underlying virtually every claim is an abstract idea" and pointing out that the abstract idea exception must be narrowly applied.[15]

Judge Linn's dissent presents compelling grounds for an appeal to the Supreme Court. As American cities begin to modernize their transit systems using this technology, they should consider the implications of these patents being found to be valid. If SSI's patents were found to be valid, it could cost cities millions in fees to SSI on top of the millions of dollars already being spent to install the technology in stations. Cities may consider the final outcome of this dispute before moving forward with contracts to install this technology.

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[1] Peter Derrick, Tunneling to the Future: The Story of the Great Subway Expansion That Saved New York (2002).

[2] Transport for London, *Fares and Payments* (last accessed 10/31/2017), https://tfl.gov.uk/fares-and-payments/.

[3] National Academies of Sciences, Engineering, and Medicine, *Preliminary Strategic Analysis of Next Generation Fare Payment Systems for Public Transportation*, Washington, DC: The National Academies Press (2015), https://doi.org/10.17226/22158.

[4] Chicago Transit Authority, *CTA Fares & Tickets* (last accessed 11/1/17), http://www.transitchicago.com/fares/.

[5] Smart Sys. Innovations, LLC v. Chi. Transit Auth., 2017 WL 4654964 (Fed. Cir. Oct. 18, 2017) (U.S. Patent Nos. 7,566,003, 7,568,617, 8,505,816, and 8,662 are the patents at issue).

[6] U.S. Patent No. 7,566,003 (filed Aug. 14, 2007).

[7] Smart Sys. Innovations, LLC v. Chi. Transit Auth., 2015 WL 4184486 (N.D. Ill. July 10, 2015) (No. 14 C 08053).

[8] Robert Schaffer & Joseph Robinson, CAFC Rules Mass Transit Fare System Claims Patent Ineligible, IPWatchdog (Oct. 29, 2017), http://www.ipwatchdog.com/2017/10/29/cafc-mass-transit-fare-system-claims-patent-ineligible/id=89683/.

[9] *Id.*

[10] Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014).

[11] Internet Patents Corp. v. Active Network, Inc., 790 F.3d 1343, 1346 (Fed. Cir. 2015).

[12] Alice Corp. Pty. Ltd., 134 S. Ct. at 2357.

[13] Schaffer & Robinson, *supra* note 8.

[14] *Id.*

[15] Smart Sys. Innovations, LLC v. Chi. Transit Auth., 2017 WL 4654964 (Fed. Cir. Oct. 18, 2017).